RF Test Data for Bluetooth (BDR+EDR) (Conducted Measurements)

General Description of EUT	
Product Name:	**Smart POS Payment Terminal**
Test Model:	**CS50**
Sample ID:	**20211111-01_01-02#**
Environmental Conditions	
Temperature:	**25℃**
Relative Humidity:	**55%**
Test Voltage:	**DC 7.6V**
Test Engineer:	**Huangjianping**
Note: For a more detailed features description, please refer to the report TB-FCC185235	

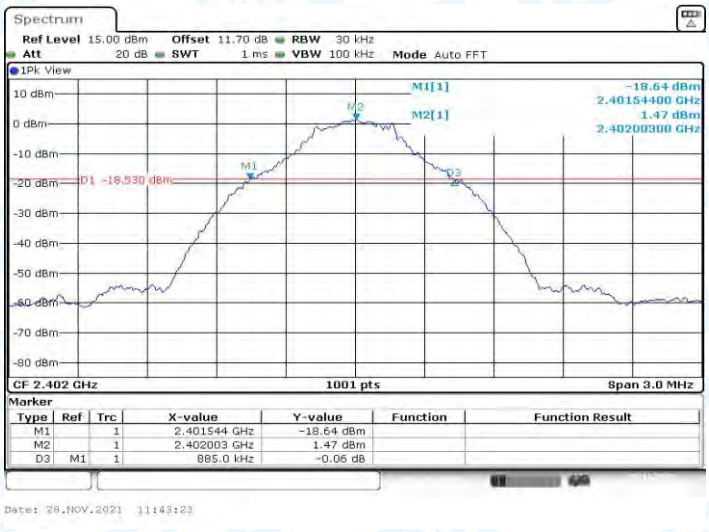
Contents

1. 20dB Emission Bandwidth

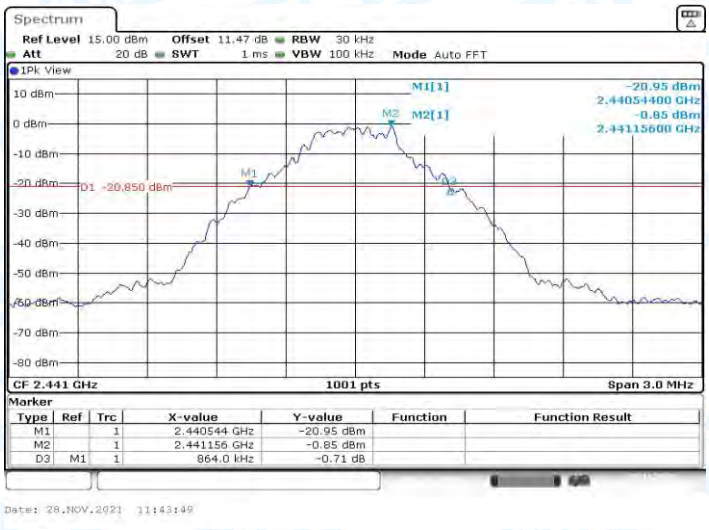
1.1.Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.89	---	---
		2441	0.86	---	---
		2480	0.84	---	---
2DH5	Ant1	2402	1.26	---	---
		2441	1.26	---	---
		2480	1.26	---	---
3DH5	Ant1	2402	1.25	---	---
		2441	1.26	---	---
		2480	1.25	---	---

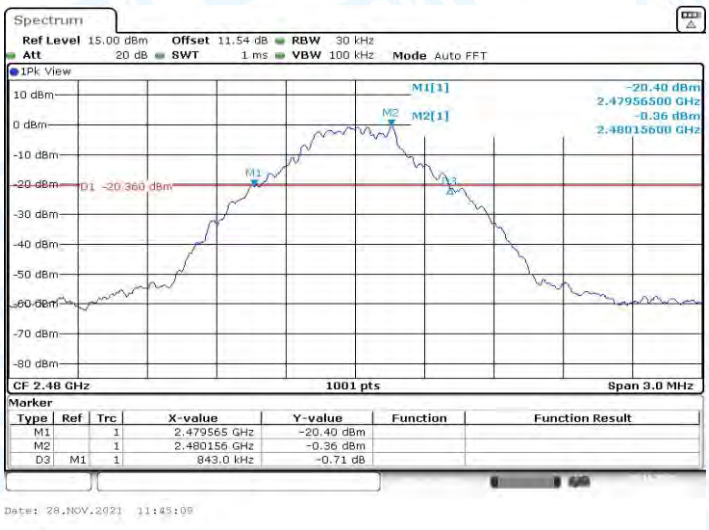
1.2.Test Graphs



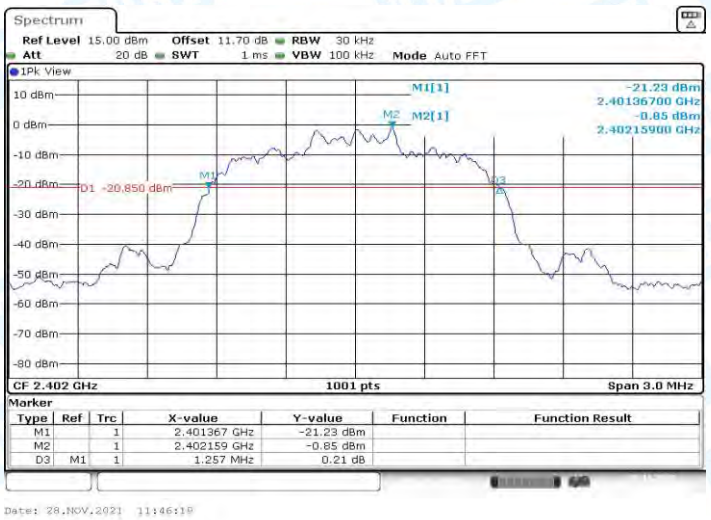
DH5_Ant1_2402



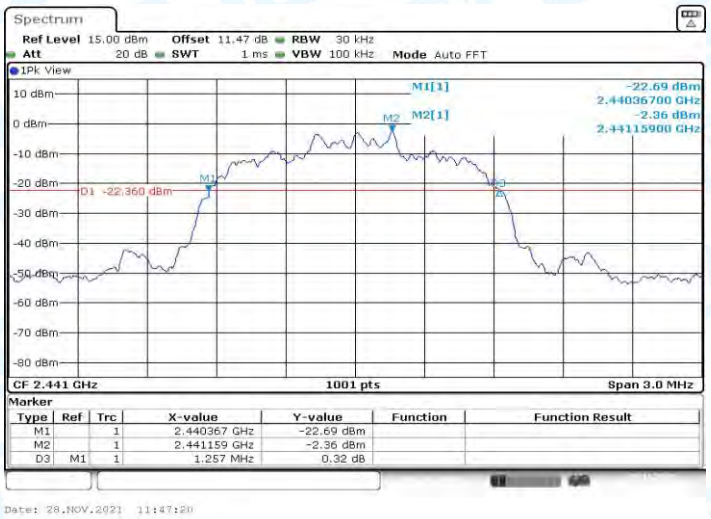
DH5_Ant1_2441



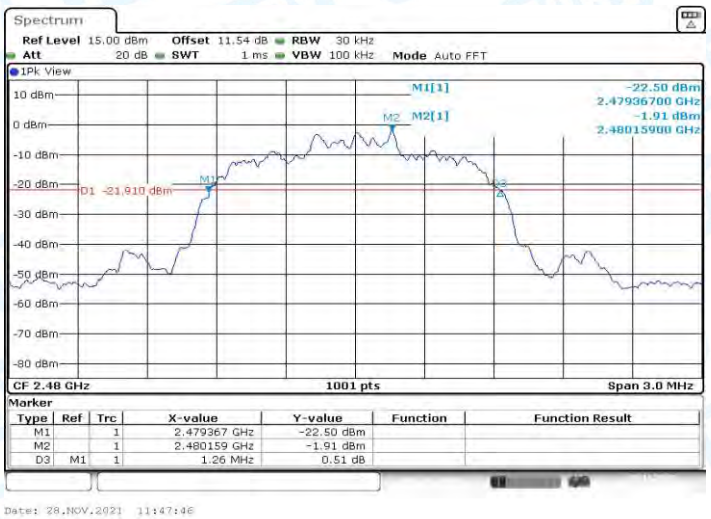
DH5_Ant1_2480



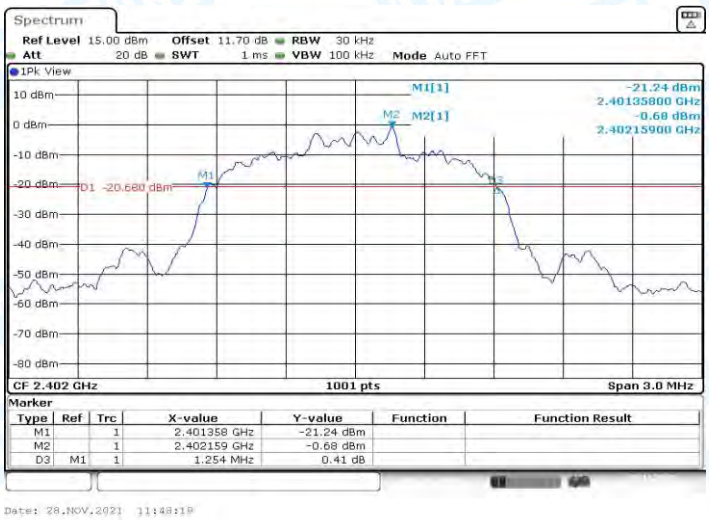
2DH5_Ant1_2402



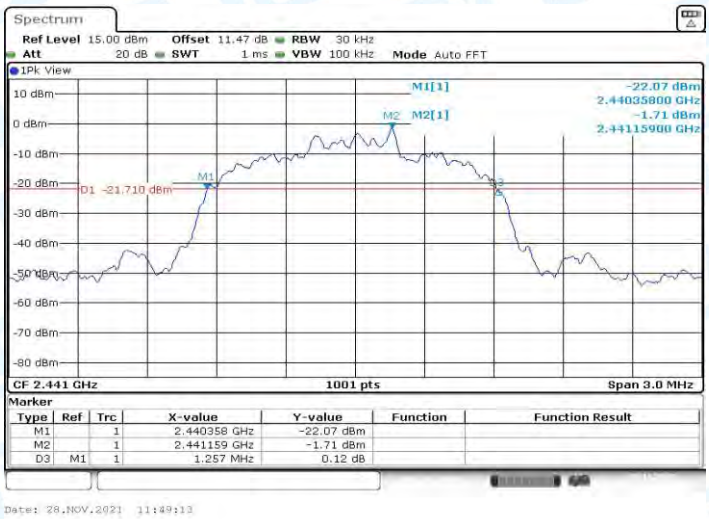
2DH5_Ant1_2441



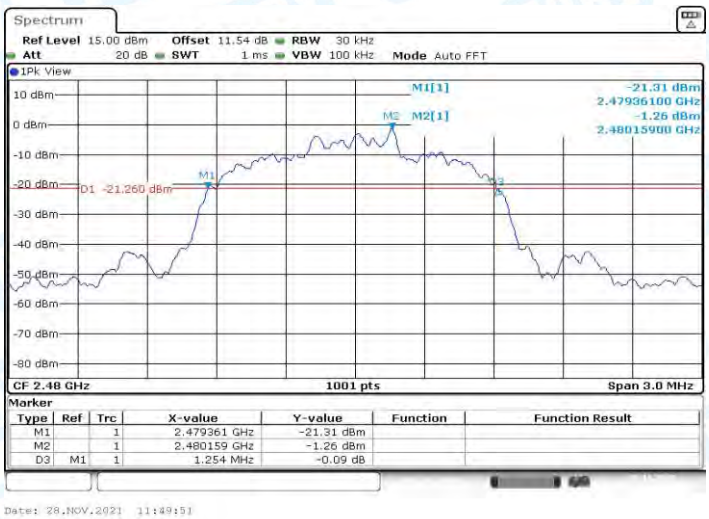
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

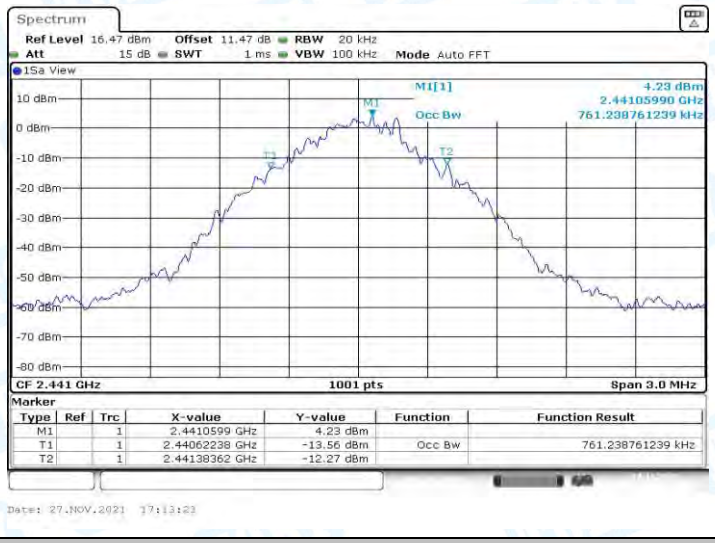
2. Occupied Channel Bandwidth

2.1.Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.758	2401.622	2402.381	---	---
		2441	0.761	2440.622	2441.384	---	---
		2480	0.761	2479.625	2480.387	---	---
2DH5	Ant1	2402	1.145	2401.422	2402.566	---	---
		2441	1.145	2440.422	2441.566	---	---
		2480	1.145	2479.422	2480.566	---	---
3DH5	Ant1	2402	1.151	2401.422	2402.572	---	---
		2441	1.148	2440.425	2441.572	---	---
		2480	1.148	2479.425	2480.572	---	---

2.2.Test Graphs

DH5_Ant1_2402

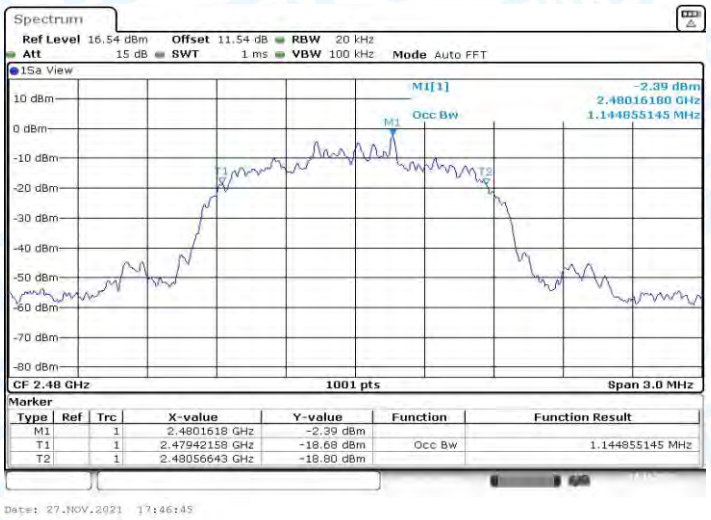


DH5_Ant1_2441

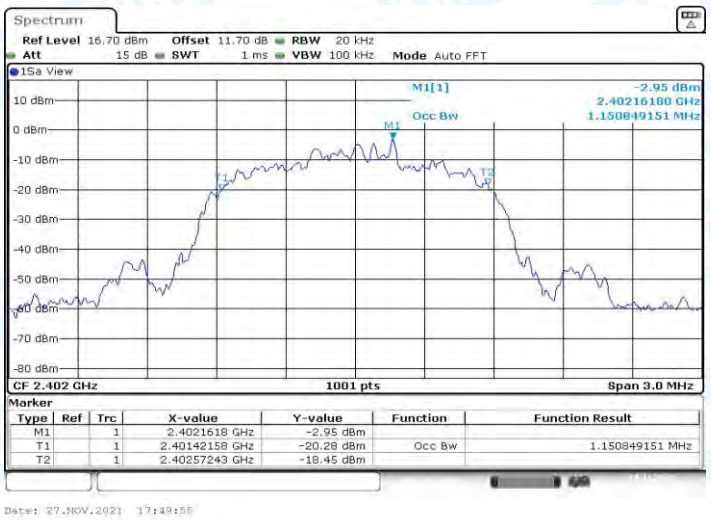
DH5_Ant1_2480

2DH5_Ant1_2402

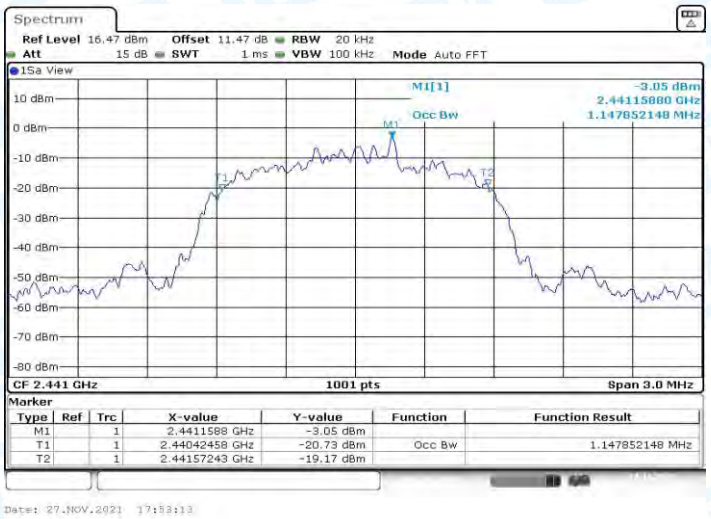
2DH5_Ant1_2441



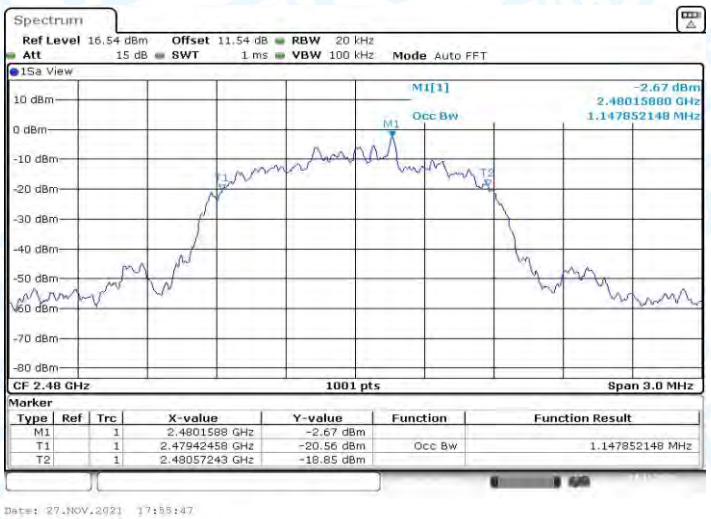
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

3. Maximum conducted output power

3.1.Test Result

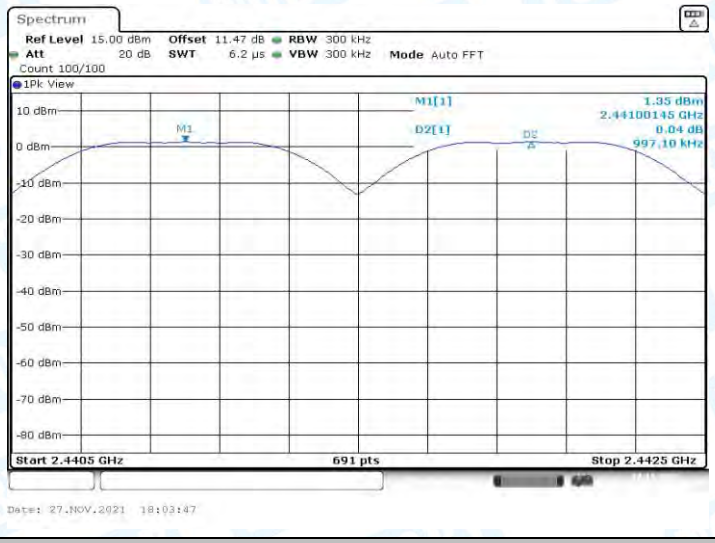
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	4.64	≤20.97	PASS
		2441	3.1	≤20.97	PASS
		2480	4.11	≤20.97	PASS
2DH5	Ant1	2402	3.57	≤20.97	PASS
		2441	2.35	≤20.97	PASS
		2480	3.3	≤20.97	PASS
3DH5	Ant1	2402	3.61	≤20.97	PASS
		2441	2.24	≤20.97	PASS
		2480	3.13	≤20.97	PASS

4. Carrier frequency separation

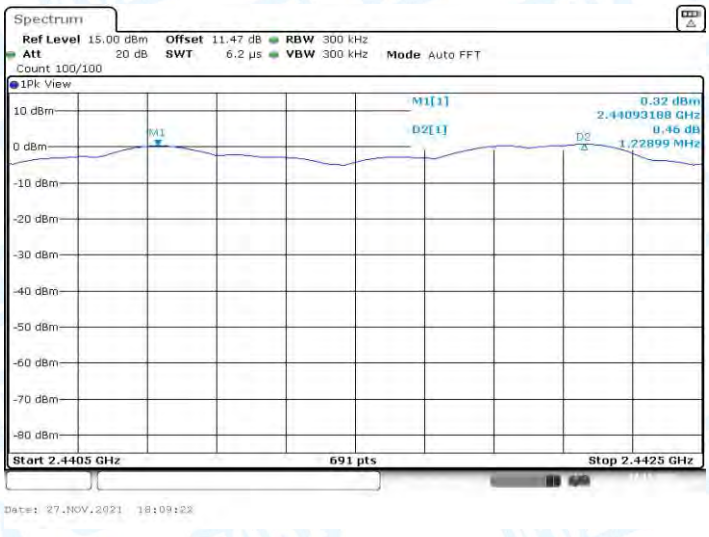
4.1.Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.997	≥0.860	PASS
2DH5	Ant1	Hop	1.229	≥0.840	PASS
3DH5	Ant1	Hop	1.162	≥0.840	PASS

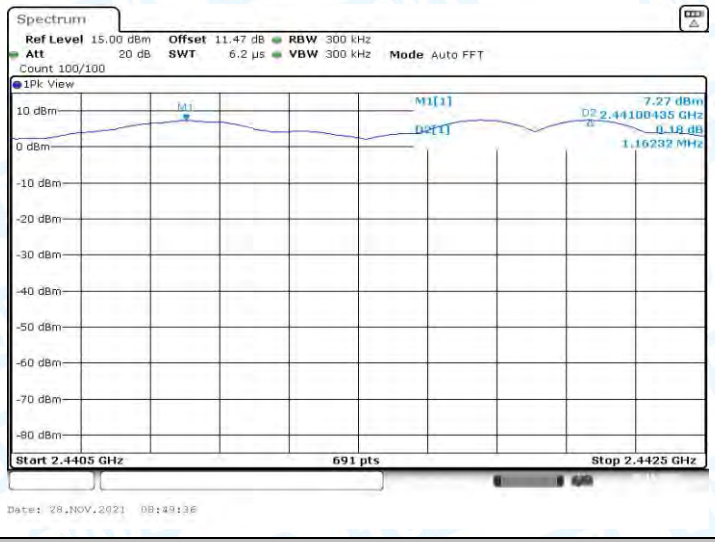
4.2.Test Graphs



DH5_Ant1_Hop



2DH5_Ant1_Hop



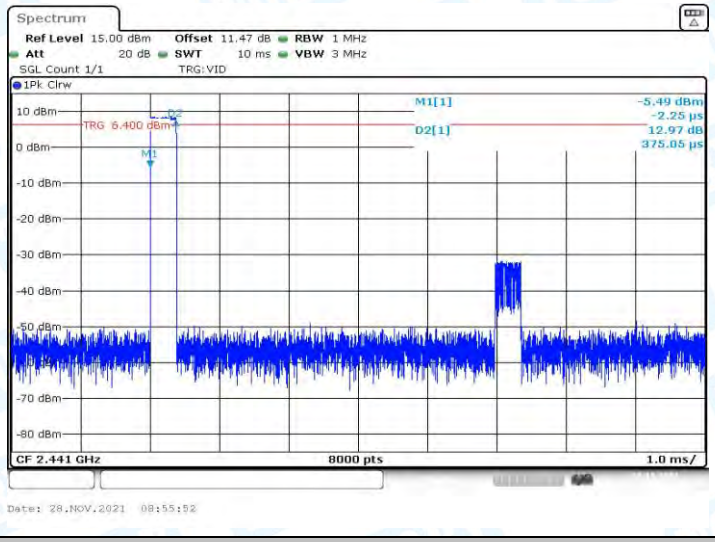
3DH5_Ant1_Hop

5. Time of occupancy

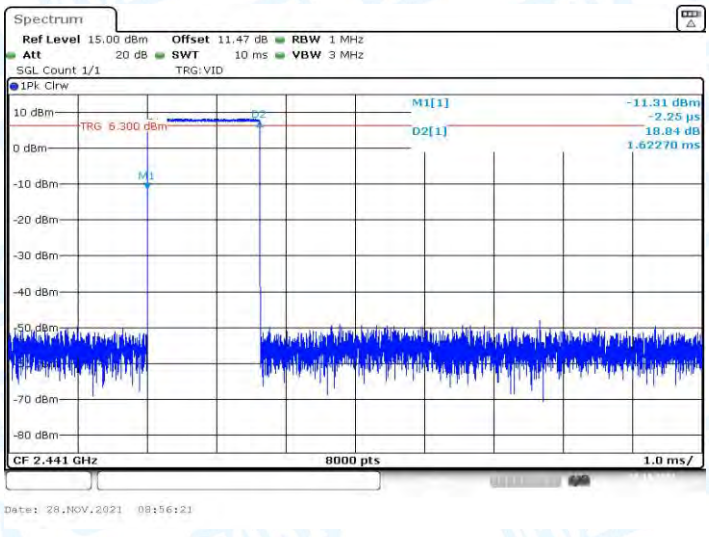
5.1.Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.38	320	0.12	≤0.4	PASS
DH3	Ant1	Hop	1.62	160	0.26	≤0.4	PASS
DH5	Ant1	Hop	2.86	106.67	0.305	≤0.4	PASS
2DH1	Ant1	Hop	0.38	320	0.122	≤0.4	PASS
2DH3	Ant1	Hop	1.63	160	0.26	≤0.4	PASS
2DH5	Ant1	Hop	2.87	106.67	0.306	≤0.4	PASS
3DH1	Ant1	Hop	0.38	320	0.122	≤0.4	PASS
3DH3	Ant1	Hop	1.63	160	0.26	≤0.4	PASS
3DH5	Ant1	Hop	2.87	106.67	0.306	≤0.4	PASS

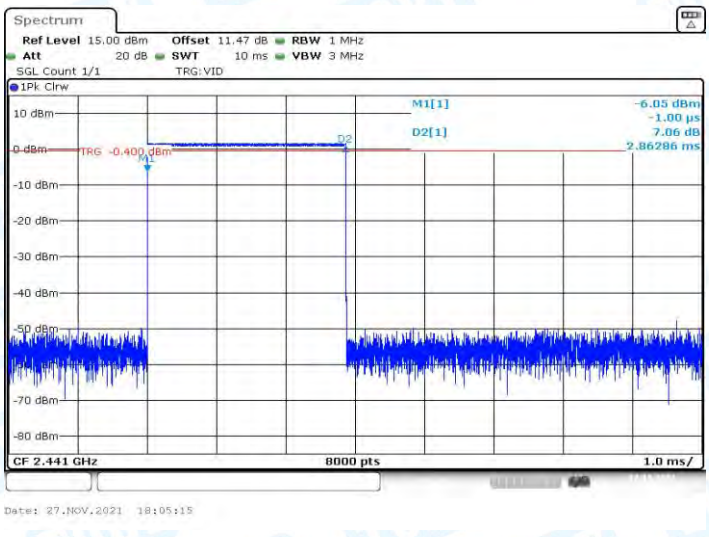
5.2.Test Graphs



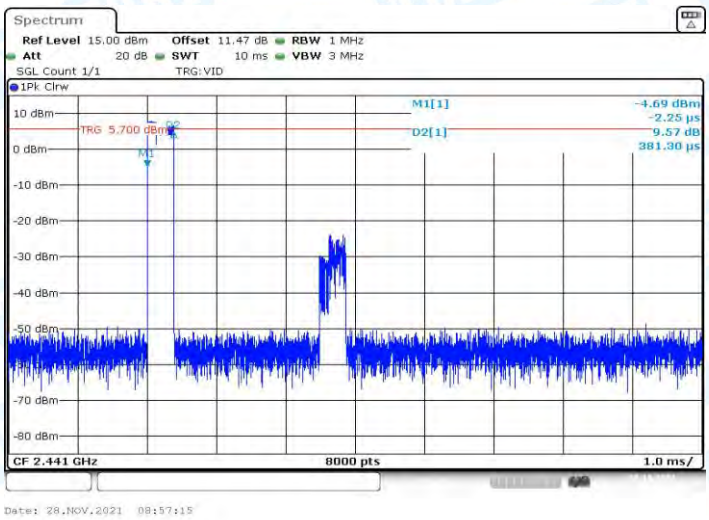
DH1_Ant1_Hop



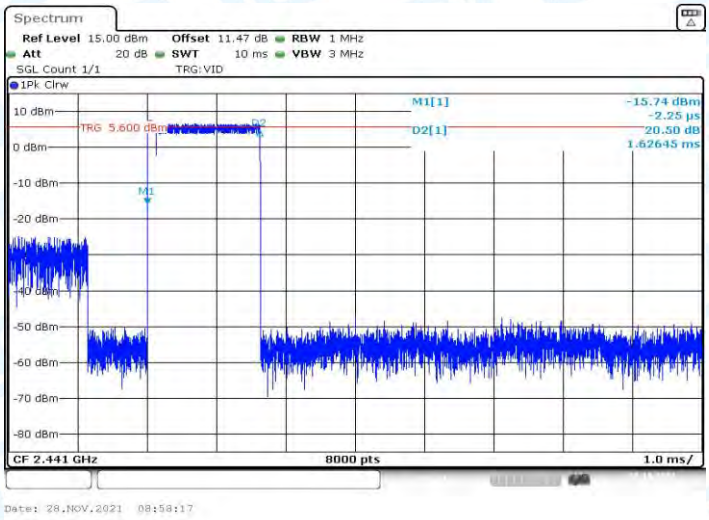
DH3_Ant1_Hop



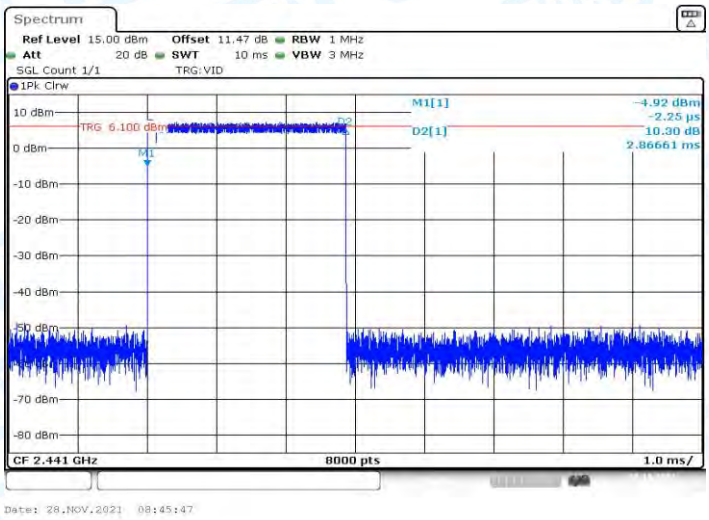
DH5_Ant1_Hop



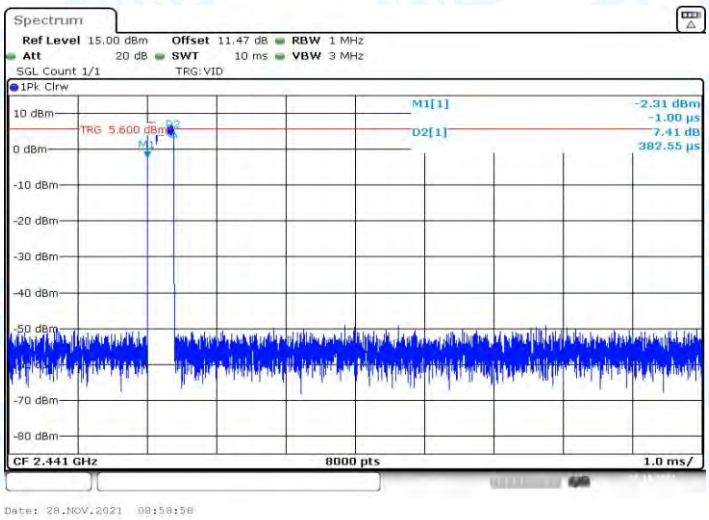
2DH1_Ant1_Hop



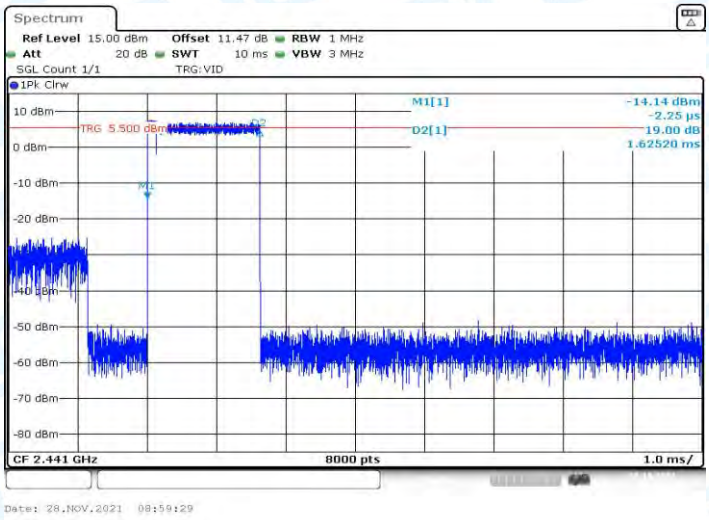
2DH3_Ant1_Hop



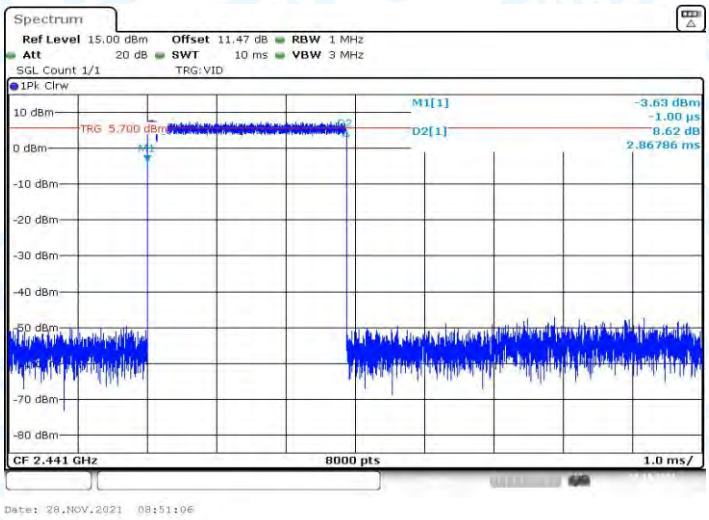
2DH5_Ant1_Hop



3DH1_Ant1_Hop



3DH3_Ant1_Hop



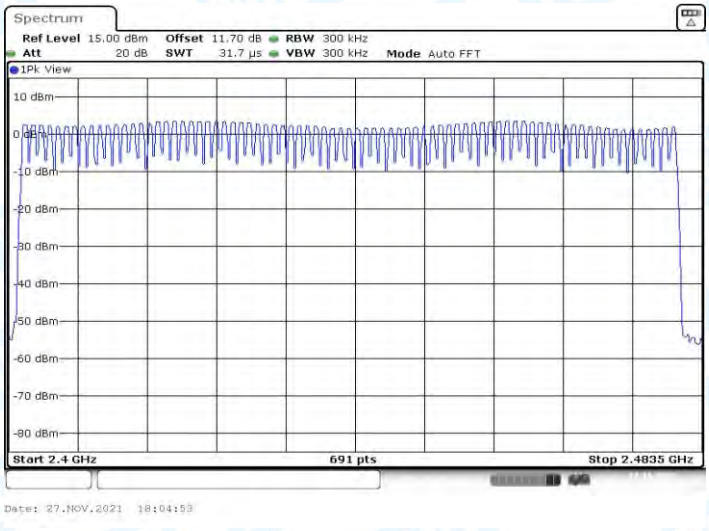
3DH5_Ant1_Hop

6. Number of hopping channels

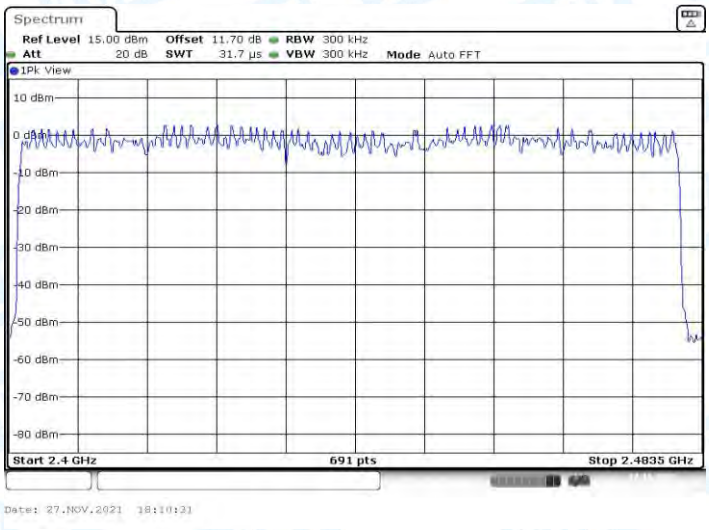
6.1.Test Result

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

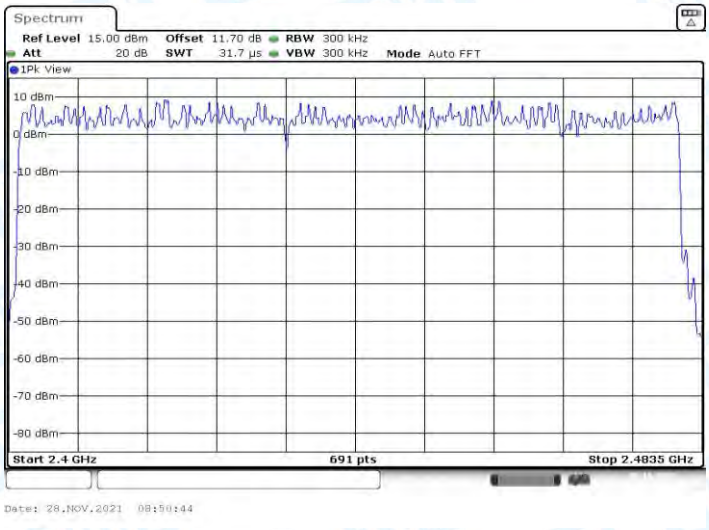
6.2.Test Graphs



DH5_Ant1_Hop



2DH5_Ant1_Hop



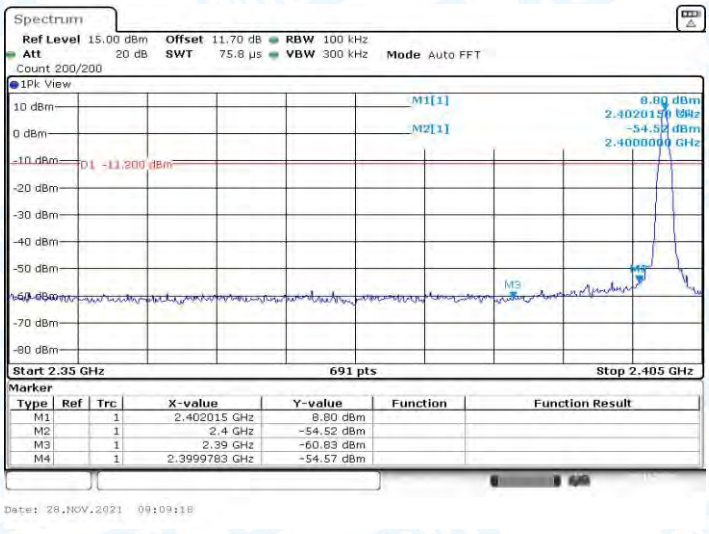
3DH5_Ant1_Hop

7.Band edge measurements

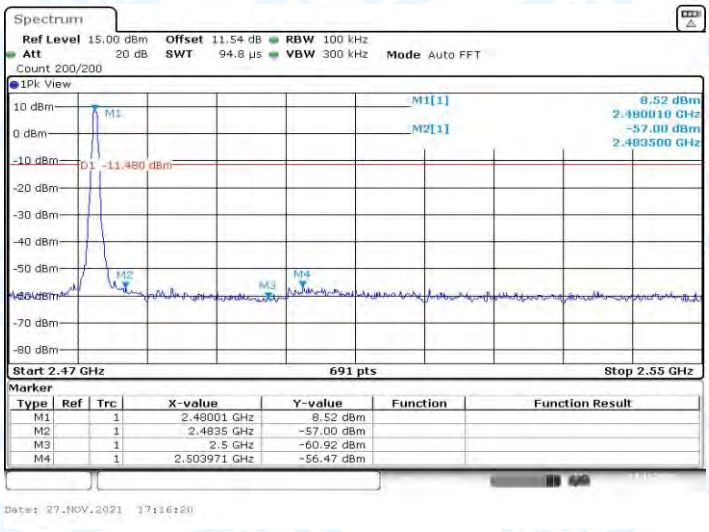
7.1.Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	8.80	-54.57	≤-11.2	PASS
		High	2480	8.52	-56.47	≤-11.48	PASS
		Low	Hop_2402	8.69	-57.5	≤-11.31	PASS
		High	Hop_2480	7.83	-44.92	≤-12.17	PASS
2DH5	Ant1	Low	2402	8.69	-50.07	≤-11.31	PASS
		High	2480	0.42	-57.06	≤-19.58	PASS
		Low	Hop_2402	-3.98	-58.3	≤-23.98	PASS
		High	Hop_2480	5.92	-50.78	≤-14.08	PASS
3DH5	Ant1	Low	2402	1.25	-57.63	≤-18.75	PASS
		High	2480	-3.48	-56.95	≤-23.48	PASS
		Low	Hop_2402	1.41	-58.31	≤-18.59	PASS
		High	Hop_2480	6.93	-44.03	≤-13.07	PASS

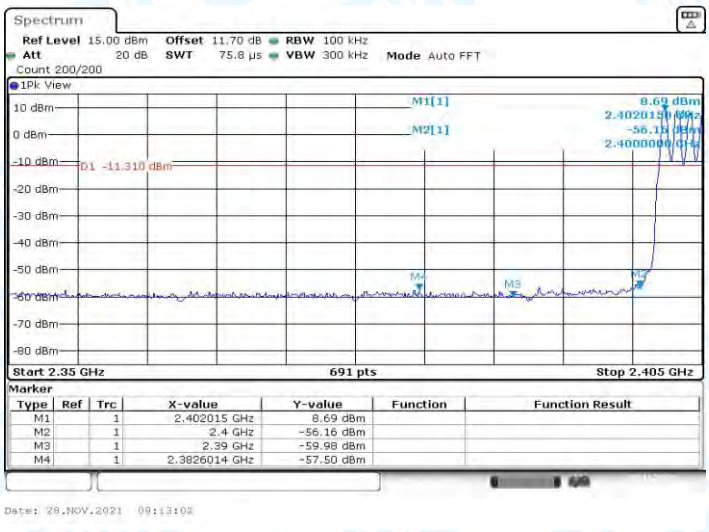
7.2.Test Graphs



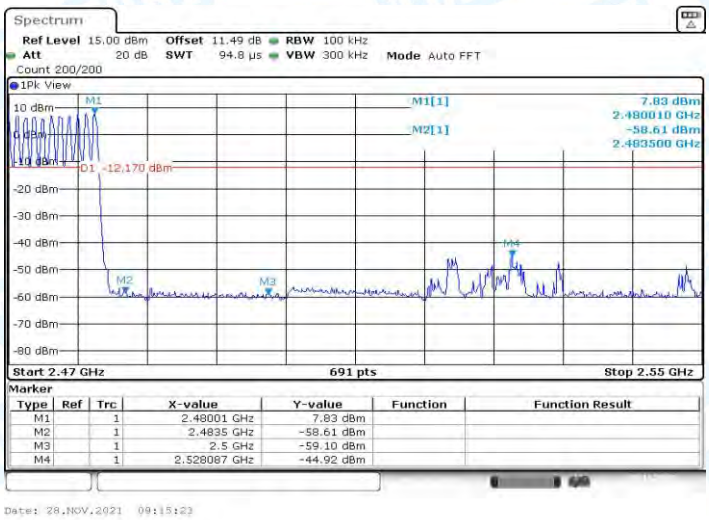
DH5_Ant1_Low_2402



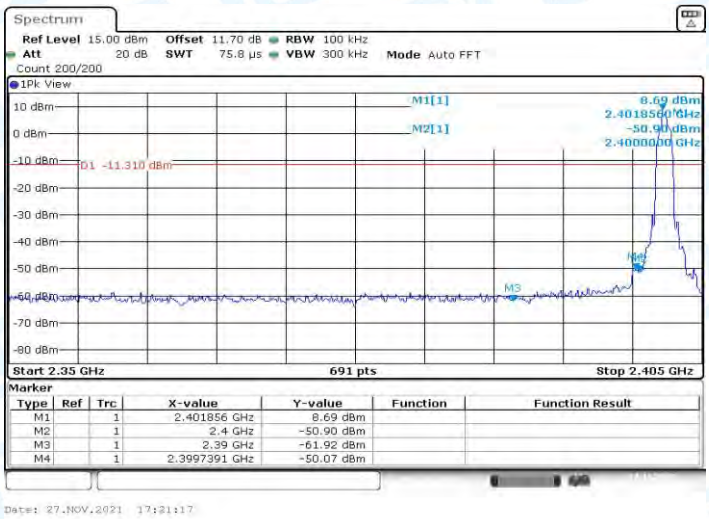
DH5_Ant1_High_2480



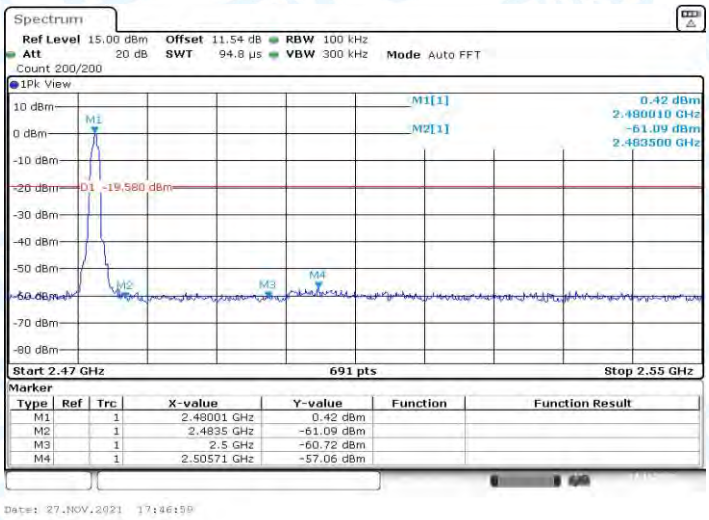
DH5_Ant1_Low_Hop_2402



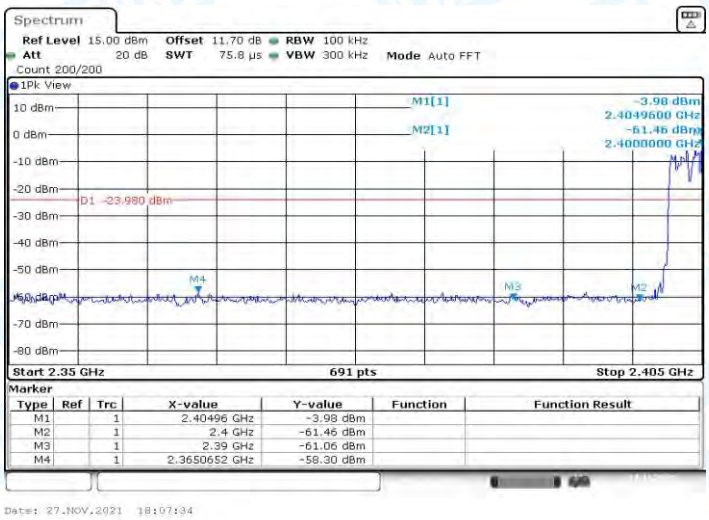
DH5_Ant1_High_Hop_2480



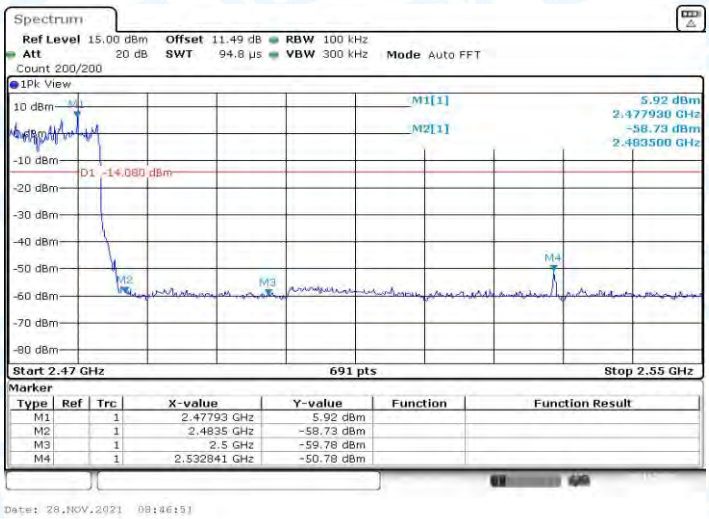
2DH5_Ant1_Low_2402



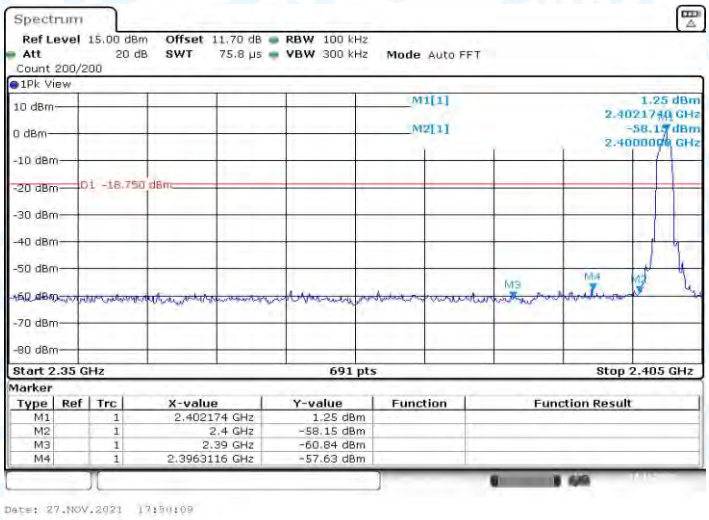
2DH5_Ant1_High_2480



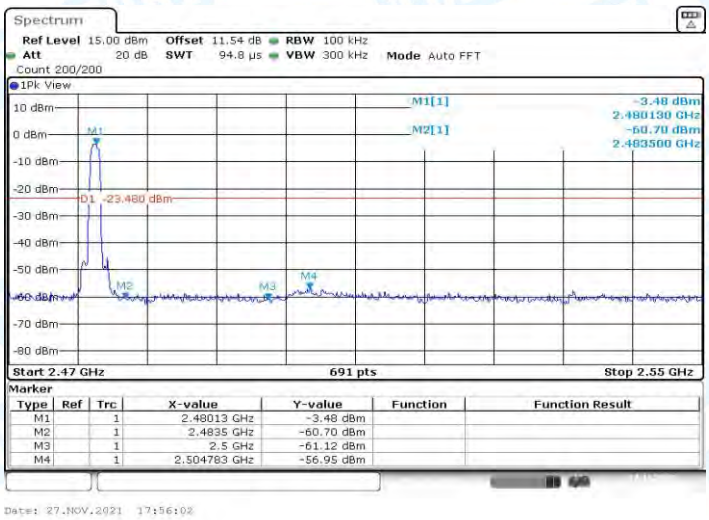
2DH5_Ant1_Low_Hop_2402



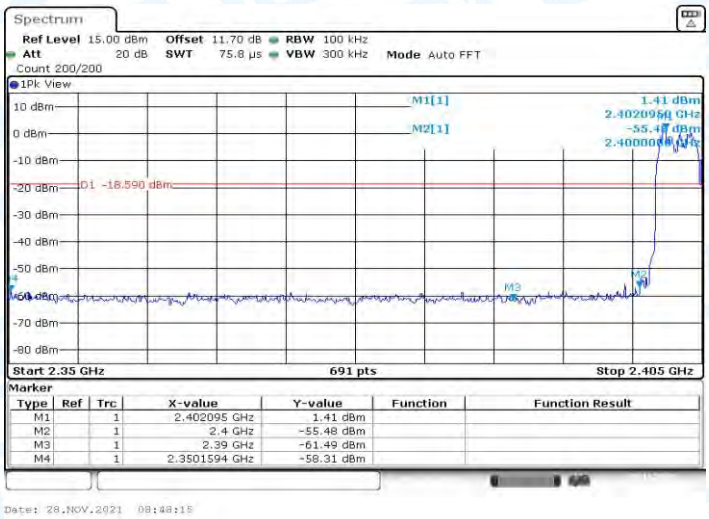
2DH5_Ant1_High_Hop_2480



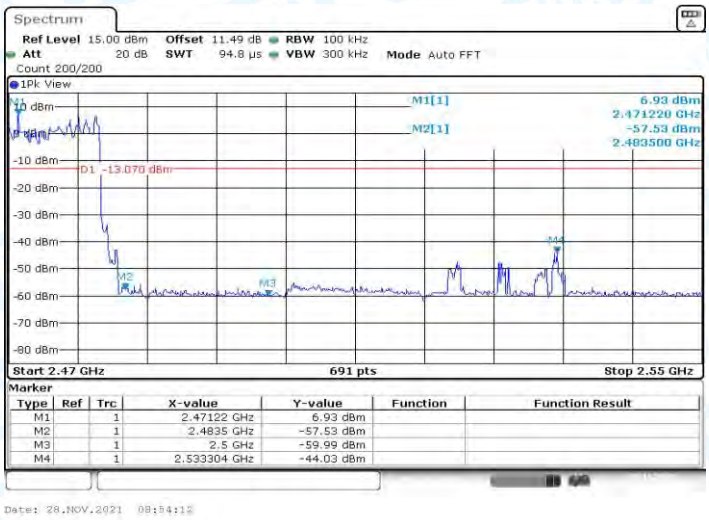
3DH5_Ant1_Low_2402



3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



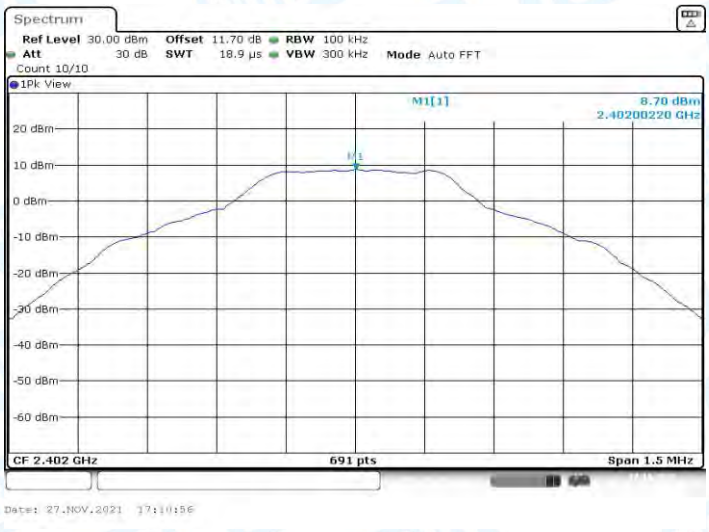
3DH5_Ant1_High_Hop_2480

8. Conducted Spurious Emission

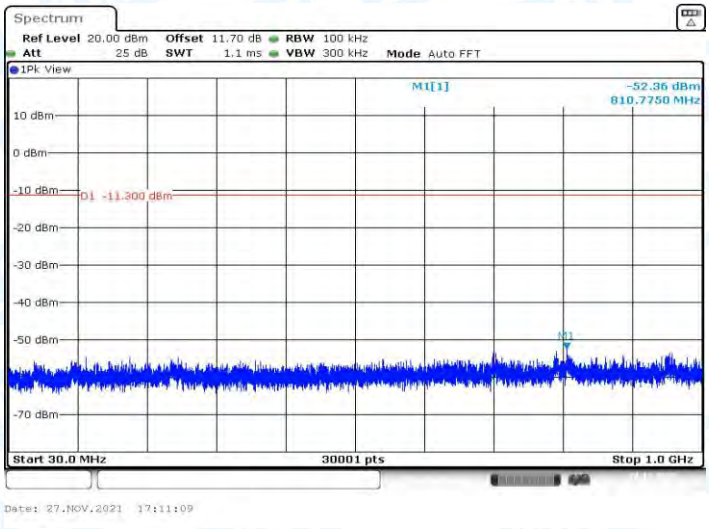
8.1.Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	8.70	8.70	---	PASS
			30~1000	8.70	-52.36	≤-11.3	PASS
			1000~26500	8.70	-46.33	≤-11.3	PASS
		2441	Reference	7.33	7.33	---	PASS
			30~1000	7.33	-53.14	≤-12.67	PASS
			1000~26500	7.33	-47.26	≤-12.67	PASS
		2480	Reference	8.80	8.80	---	PASS
			30~1000	8.80	-52.45	≤-11.2	PASS
			1000~26500	8.80	-46.28	≤-11.2	PASS
2DH5	Ant1	2402	Reference	8.13	8.13	---	PASS
			30~1000	8.13	-52.6	≤-11.87	PASS
			1000~26500	8.13	-46.59	≤-11.87	PASS
		2441	Reference	0.32	0.32	---	PASS
			30~1000	0.32	-48.01	≤-19.68	PASS
			1000~26500	0.32	-47.2	≤-19.68	PASS
		2480	Reference	0.28	0.28	---	PASS
			30~1000	0.28	-53.06	≤-19.72	PASS
			1000~26500	0.28	-47.5	≤-19.72	PASS
3DH5	Ant1	2402	Reference	1.59	1.59	---	PASS
			30~1000	1.59	-39.49	≤-18.41	PASS
			1000~26500	1.59	-46.1	≤-18.41	PASS
		2441	Reference	0.80	0.80	---	PASS
			30~1000	0.80	-52.5	≤-19.2	PASS
			1000~26500	0.80	-46.54	≤-19.2	PASS
		2480	Reference	1.12	1.12	---	PASS
			30~1000	1.12	-53.47	≤-18.88	PASS
			1000~26500	1.12	-46.77	≤-18.88	PASS

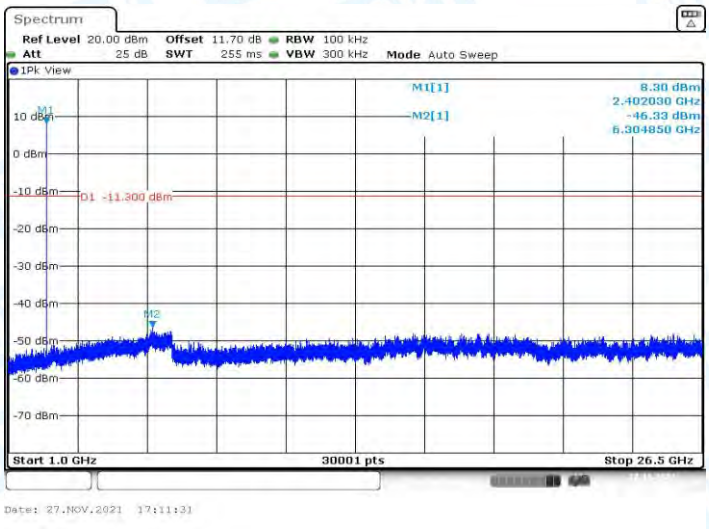
8.2.Test Graphs



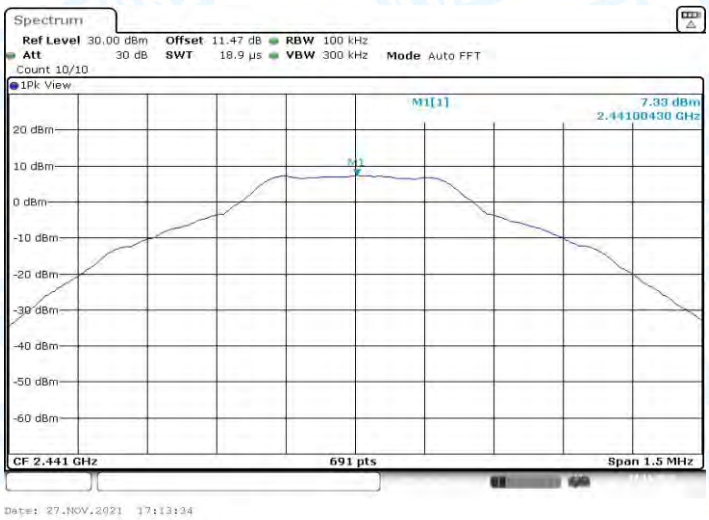
DH5_Ant1_2402_0~Reference



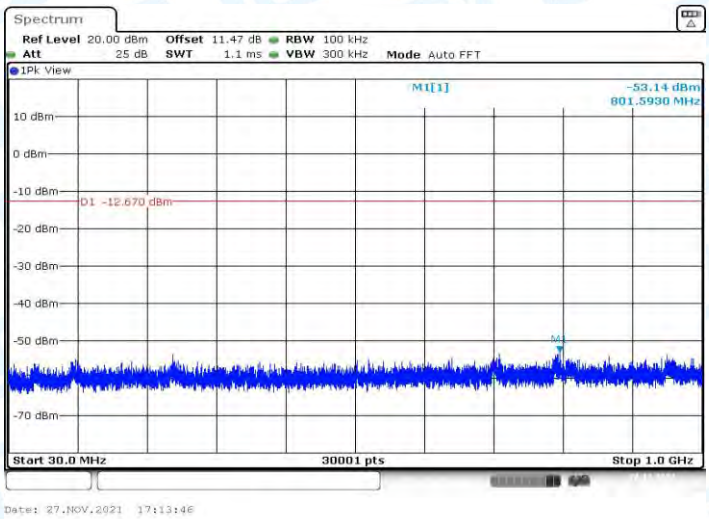
DH5_Ant1_2402_30~1000



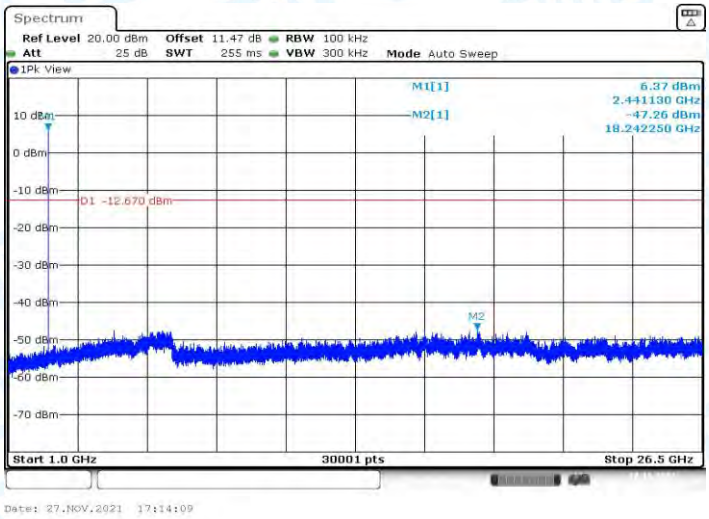
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference

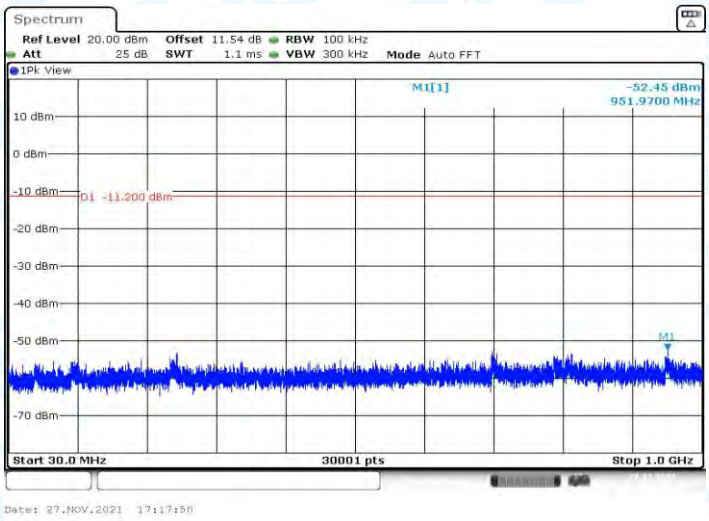


DH5_Ant1_2441_30~1000

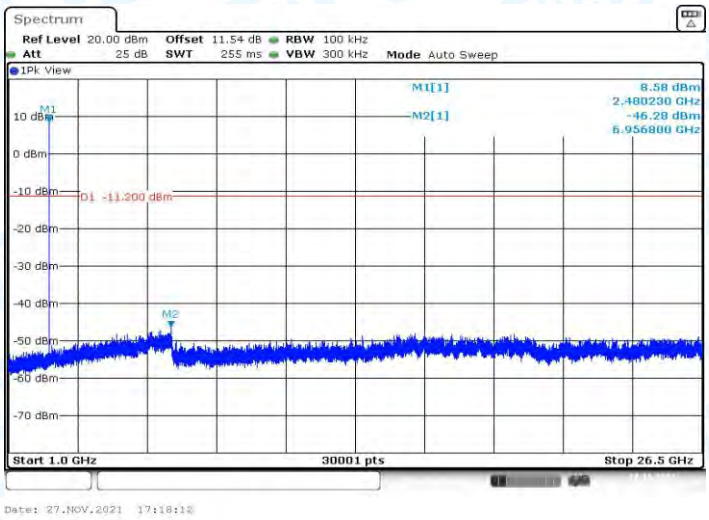


DH5_Ant1_2441_1000~26500

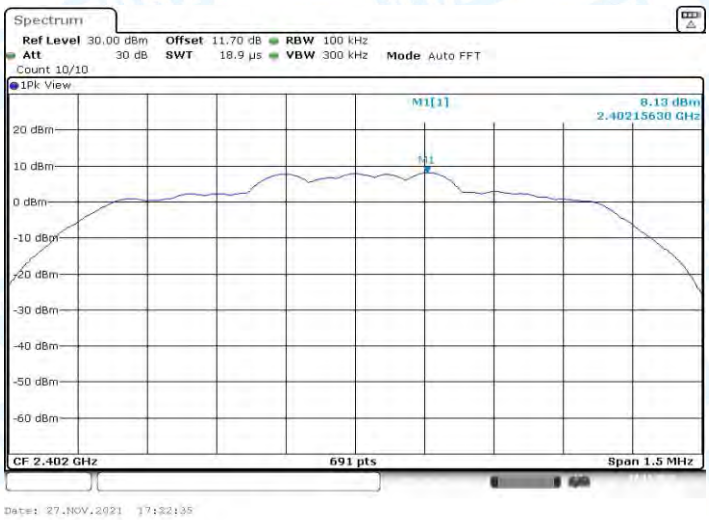
DH5_Ant1_2480_0~Reference



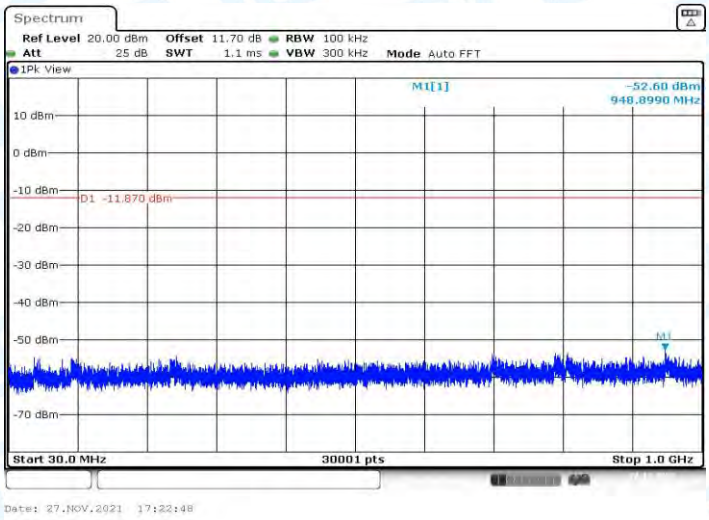
DH5_Ant1_2480_30~1000



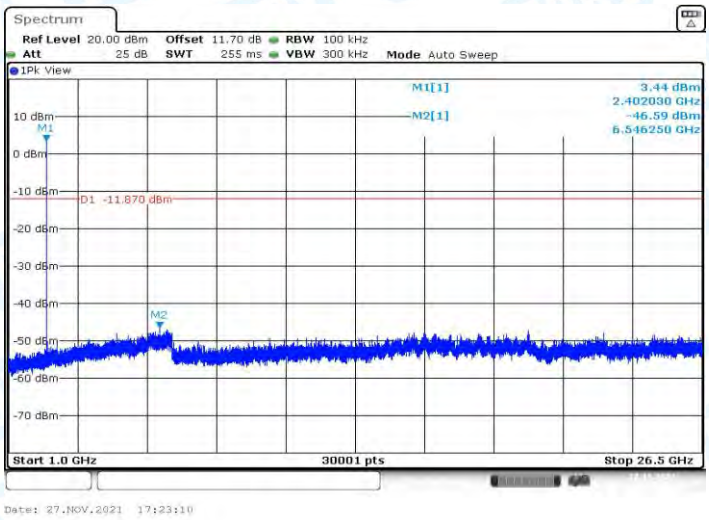
DH5_Ant1_2480_1000~26500



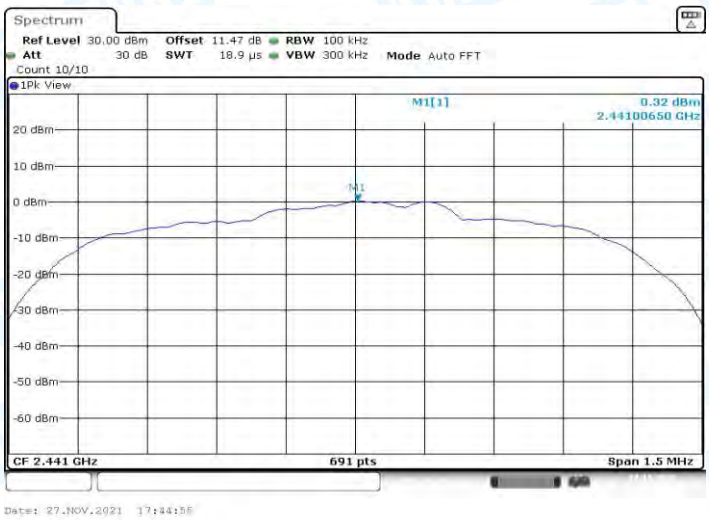
2DH5_Ant1_2402_0~Reference



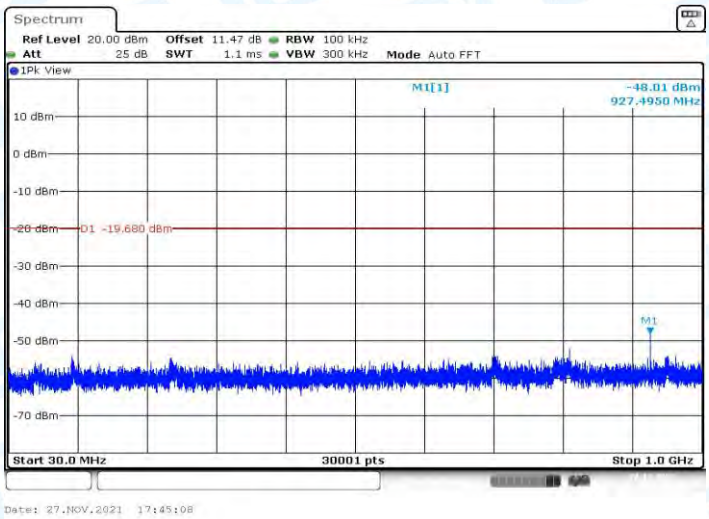
2DH5_Ant1_2402_30~1000



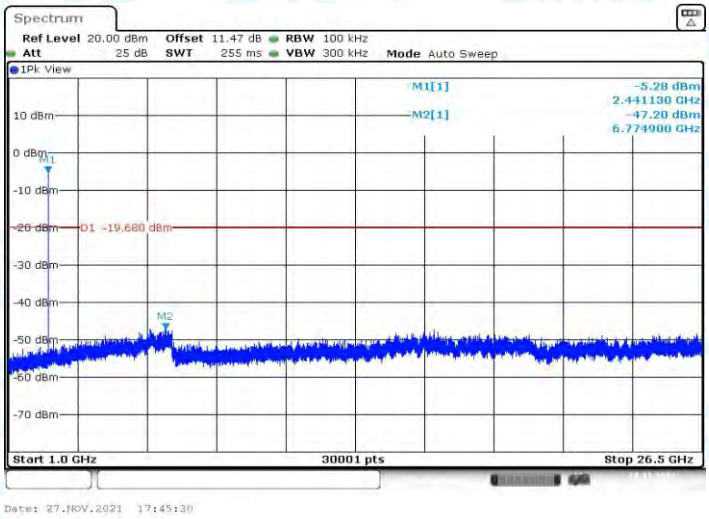
2DH5_Ant1_2402_1000~26500



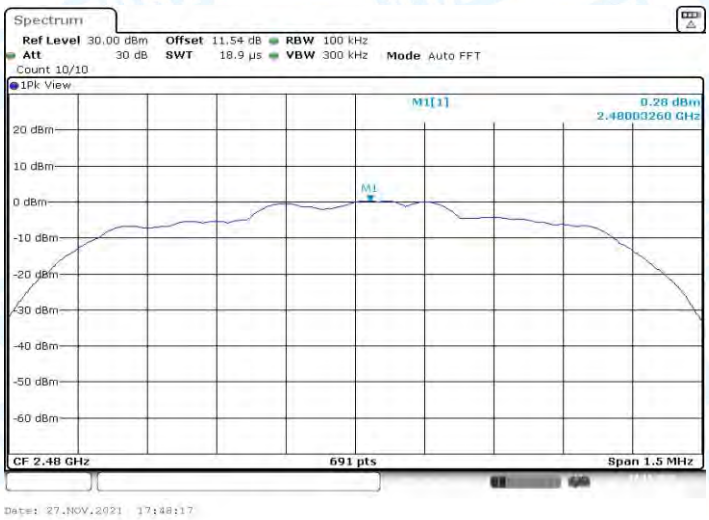
2DH5_Ant1_2441_0~Reference



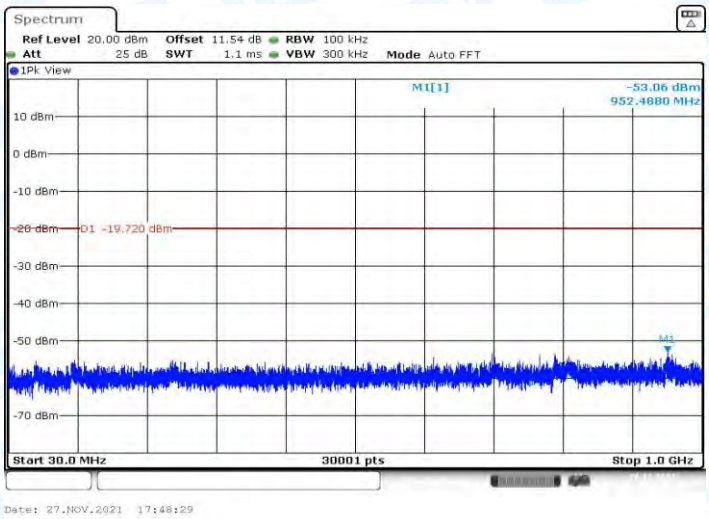
2DH5_Ant1_2441_30~1000



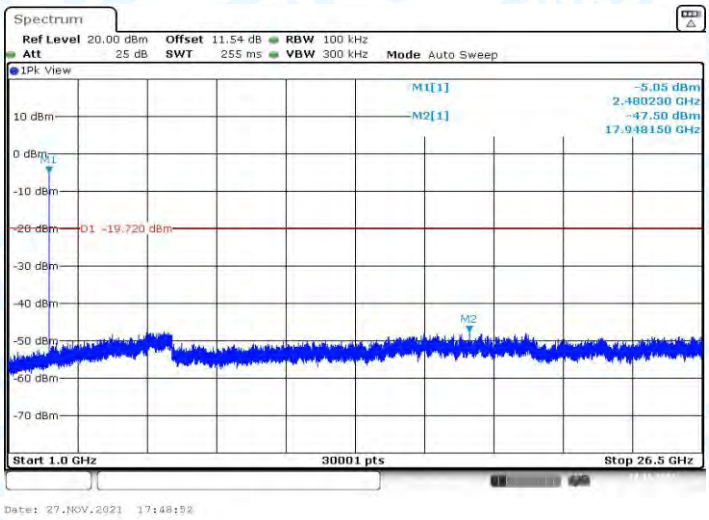
2DH5_Ant1_2441_1000~26500



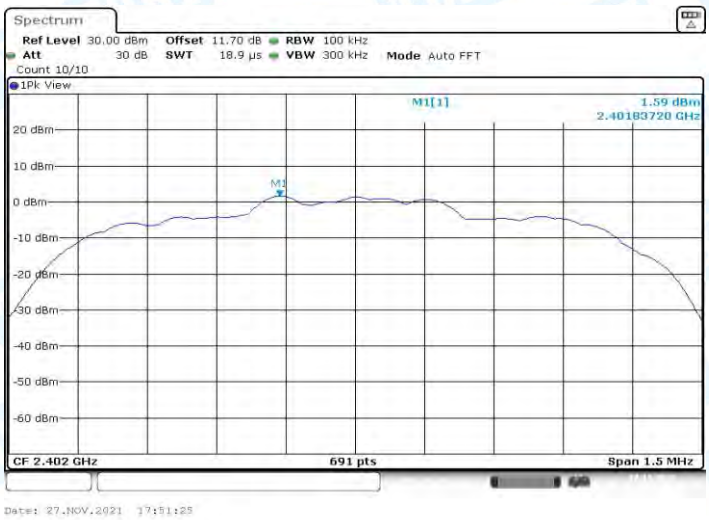
2DH5_Ant1_2480_0~Reference



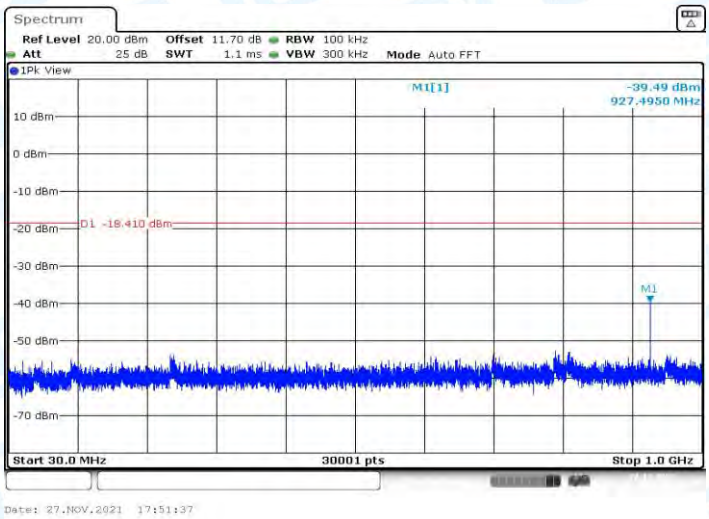
2DH5_Ant1_2480_30~1000



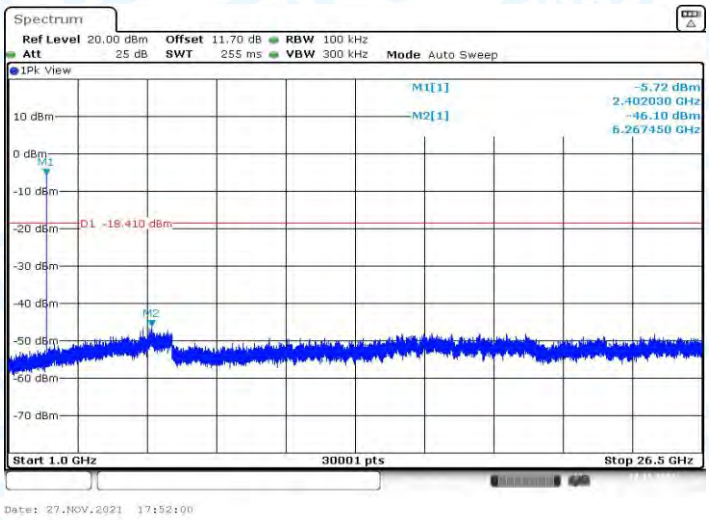
2DH5_Ant1_2480_1000~26500



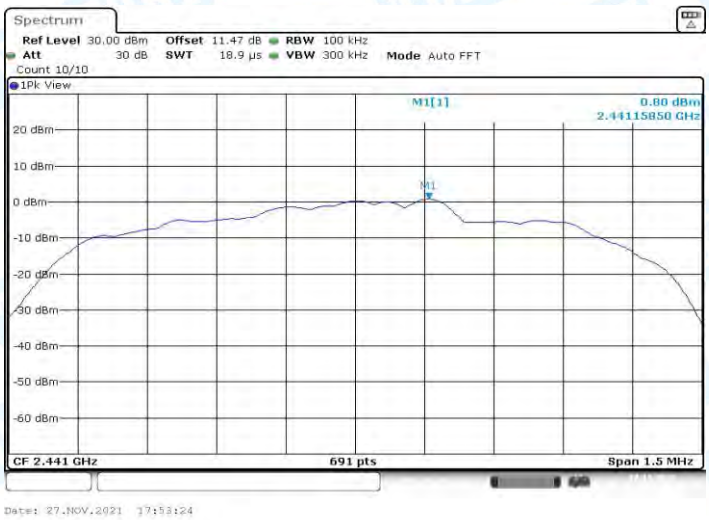
3DH5_Ant1_2402_0~Reference



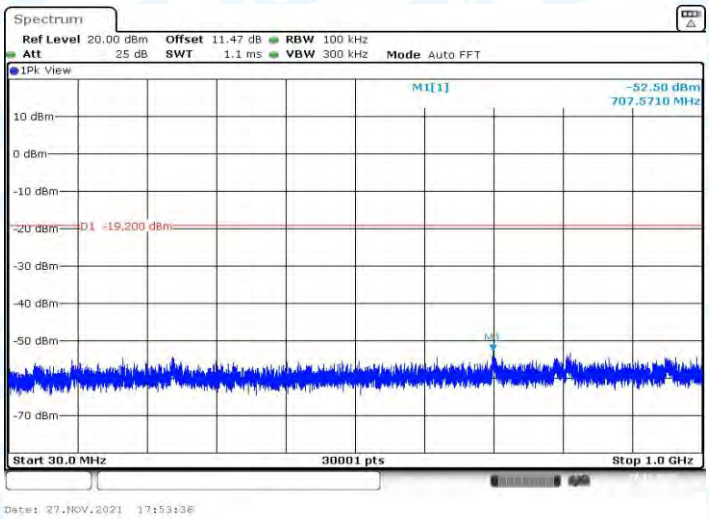
3DH5_Ant1_2402_30~1000



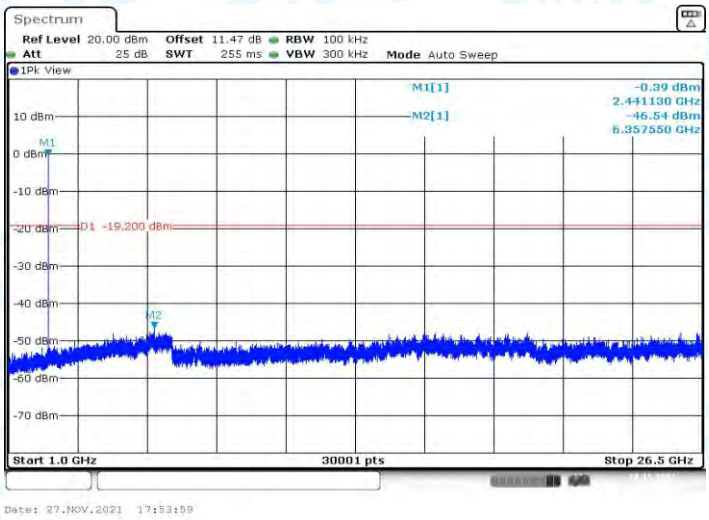
3DH5_Ant1_2402_1000~26500



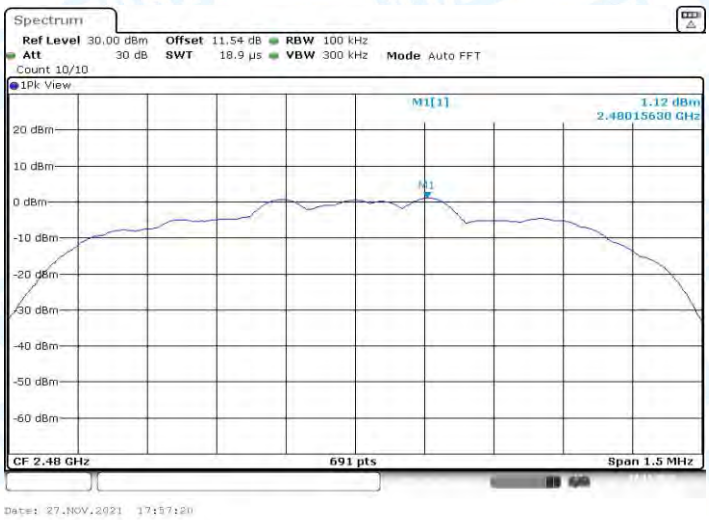
3DH5_Ant1_2441_0~Reference



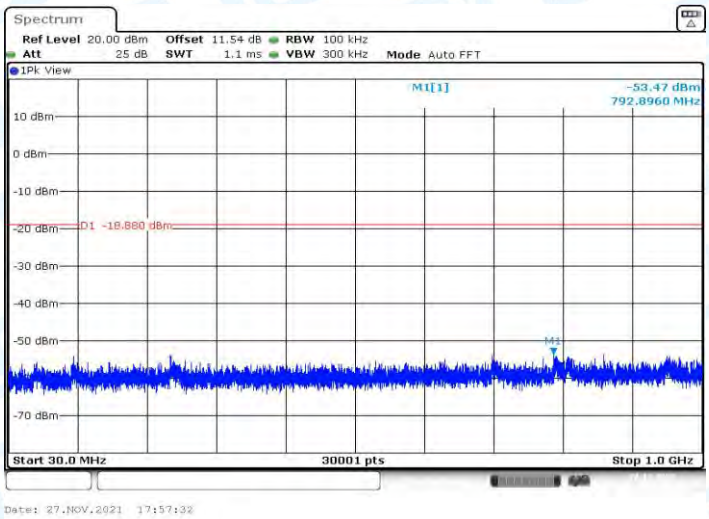
3DH5_Ant1_2441_30~1000



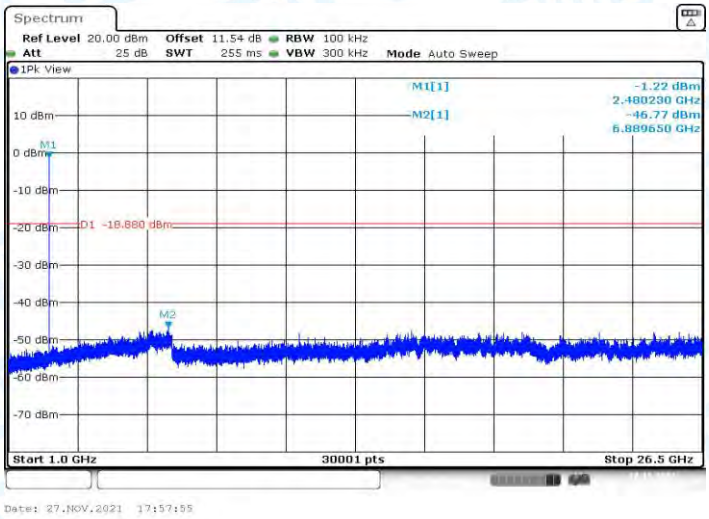
3DH5_Ant1_2441_1000~26500



3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500

9. Emissions in Restricted Bands

9.1.Test Result

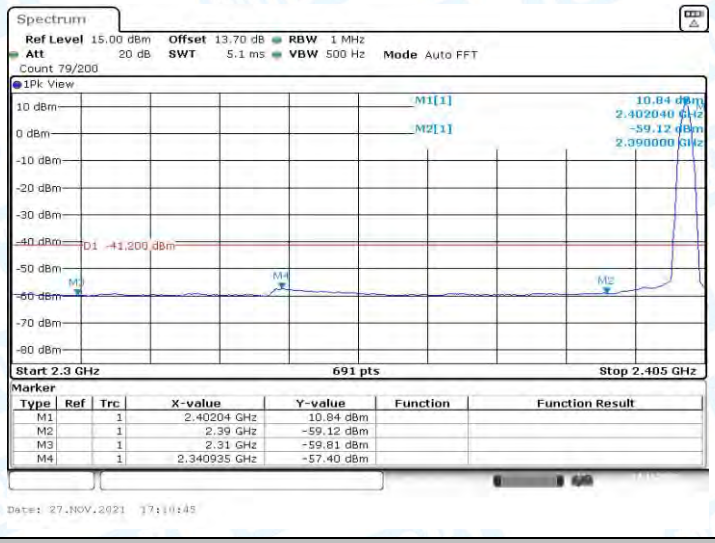
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-59.81	≤-41.20	PASS
				AV	2340.935	-57.4	≤-41.20	PASS
				AV	2390.000	-59.12	≤-41.20	PASS
				Peak	2310.000	-49.64	≤-21.20	PASS
				Peak	2361.174	-45.93	≤-21.20	PASS
				Peak	2390.000	-48.68	≤-21.20	PASS
		High	2480	AV	2483.500	-55.56	≤-41.20	PASS
				AV	2483.565	-55.64	≤-41.20	PASS
				AV	2500.000	-58.93	≤-41.20	PASS
				Peak	2483.500	-46.68	≤-21.20	PASS
				Peak	2483.913	-43.77	≤-21.20	PASS
				Peak	2500.000	-47.87	≤-21.20	PASS
		Low	Hop_2402	Peak	2310.000	-49.87	≤-21.20	PASS
				Peak	2345.652	-45.88	≤-21.20	PASS
				Peak	2390.000	-49.35	≤-21.20	PASS
		High	Hop_2480	Peak	2483.500	-49.76	≤-21.20	PASS
				Peak	2493.884	-46.89	≤-21.20	PASS
				Peak	2500.000	-48.16	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-59.74	≤-41.20	PASS
				AV	2340.022	-57.51	≤-41.20	PASS
				AV	2390.000	-59.17	≤-41.20	PASS
				Peak	2310.000	-48.8	≤-21.20	PASS
				Peak	2343.065	-46.18	≤-21.20	PASS
				Peak	2390.000	-48.44	≤-21.20	PASS
		High	2480	AV	2483.500	-58.1	≤-41.20	PASS
				AV	2484.377	-57.92	≤-41.20	PASS
				AV	2500.000	-58.91	≤-41.20	PASS
				Peak	2483.500	-49.8	≤-21.20	PASS
				Peak	2484.261	-45.68	≤-21.20	PASS
				Peak	2500.000	-48.34	≤-21.20	PASS
		Low	Hop_2402	Peak	2310.000	-47.51	≤-21.20	PASS
				Peak	2323.891	-46.5	≤-21.20	PASS
				Peak	2390.000	-48.51	≤-21.20	PASS
		High	Hop_2480	Peak	2483.500	-48.84	≤-21.20	PASS
				Peak	2486.580	-44.32	≤-21.20	PASS
				Peak	2500.000	-48.4	≤-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-59.72	≤-41.20	PASS
				AV	2341.696	-57.24	≤-41.20	PASS
				AV	2390.000	-59.52	≤-41.20	PASS
				Peak	2310.000	-49.33	≤-21.20	PASS
				Peak	2340.022	-44.77	≤-21.20	PASS

				Peak	2390.000	-49.07	≤-21.20	PASS
		High	2480	AV	2483.500	-58.03	≤-41.20	PASS
				AV	2483.913	-57.87	≤-41.20	PASS
				AV	2500.000	-59.02	≤-41.20	PASS
				Peak	2483.500	-49.94	≤-21.20	PASS
				Peak	2499.681	-45.98	≤-21.20	PASS
				Peak	2500.000	-46.89	≤-21.20	PASS
		Low	Hop_2402	Peak	2310.000	-49.82	≤-21.20	PASS
				Peak	2340.630	-45.82	≤-21.20	PASS
				Peak	2390.000	-48.8	≤-21.20	PASS
		High	Hop_2480	Peak	2483.500	-49.4	≤-21.20	PASS
				Peak	2492.609	-44.91	≤-21.20	PASS
				Peak	2500.000	-47.76	≤-21.20	PASS

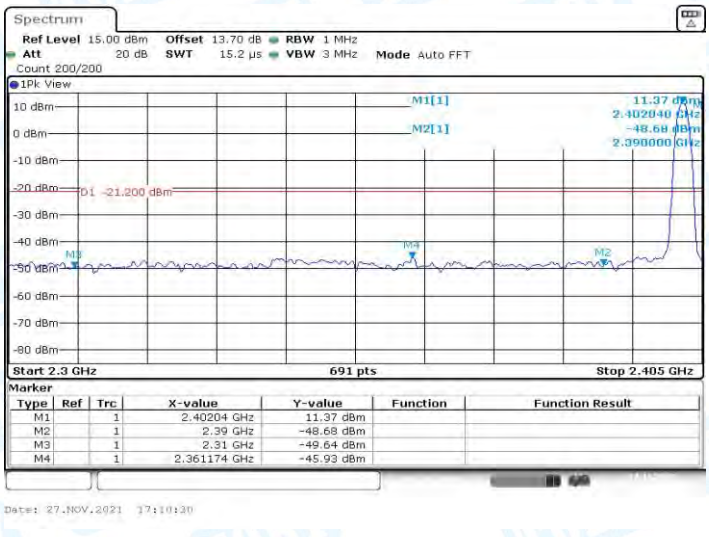
Note：

1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

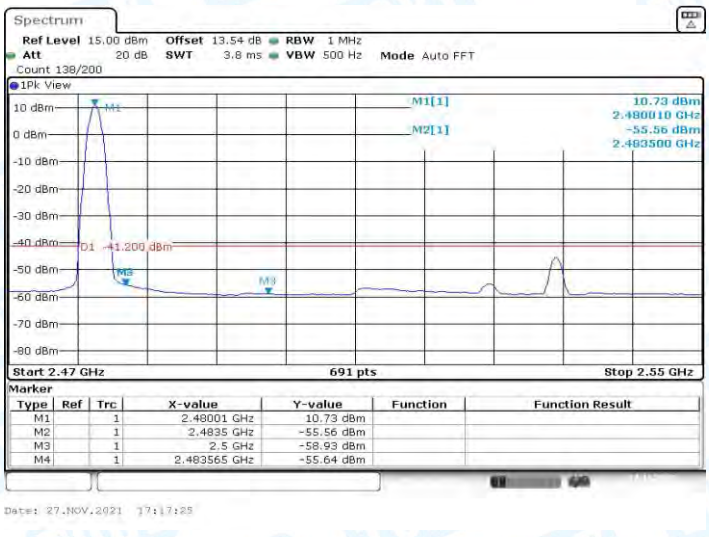
10.2.Test Graphs



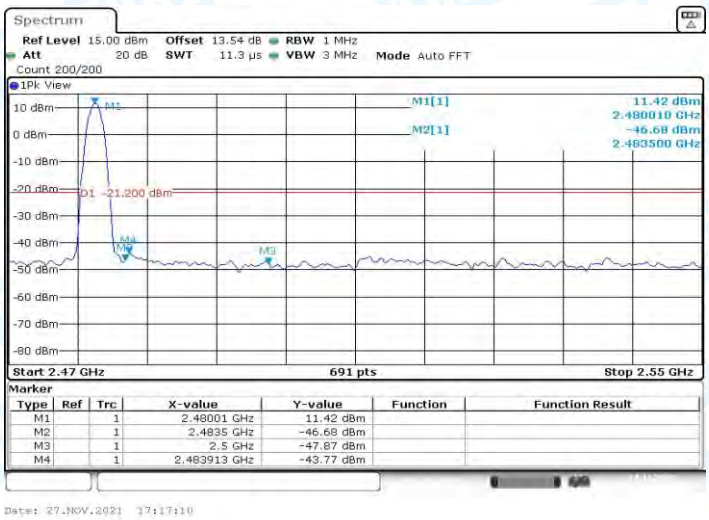
DH5_Ant1_Low_2402_AV



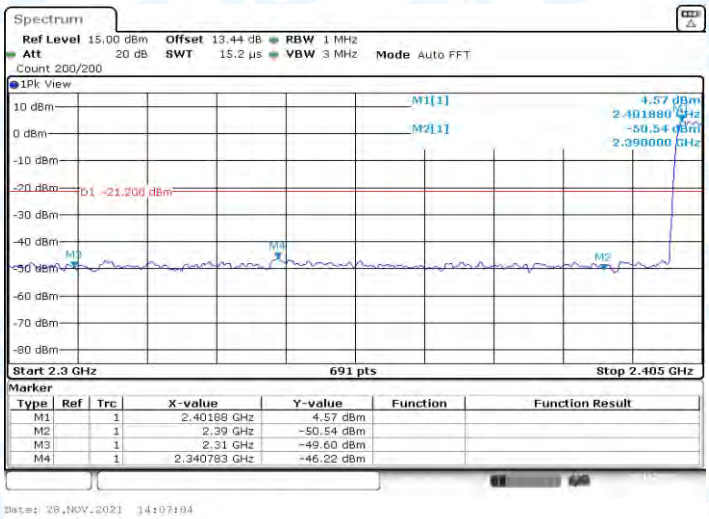
DH5_Ant1_Low_2402_Peak



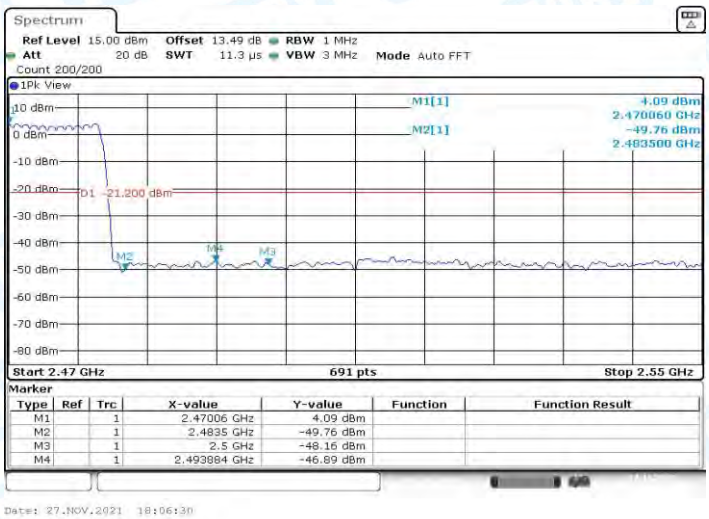
DH5_Ant1_High_2480_AV



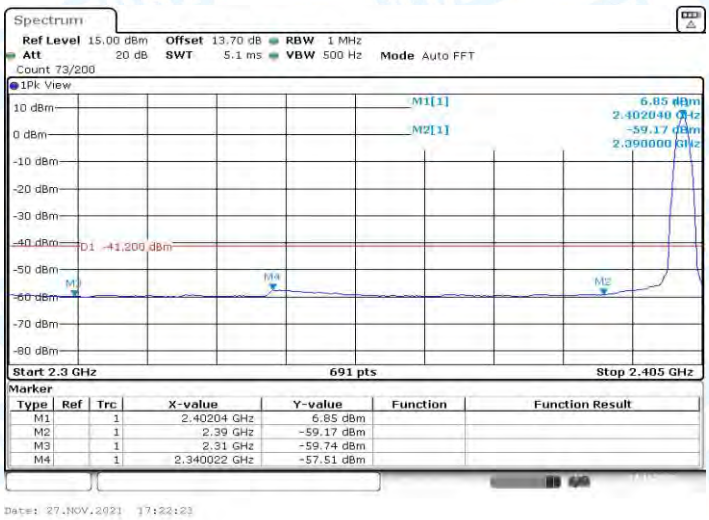
DH5_Ant1_High_2480_Peak



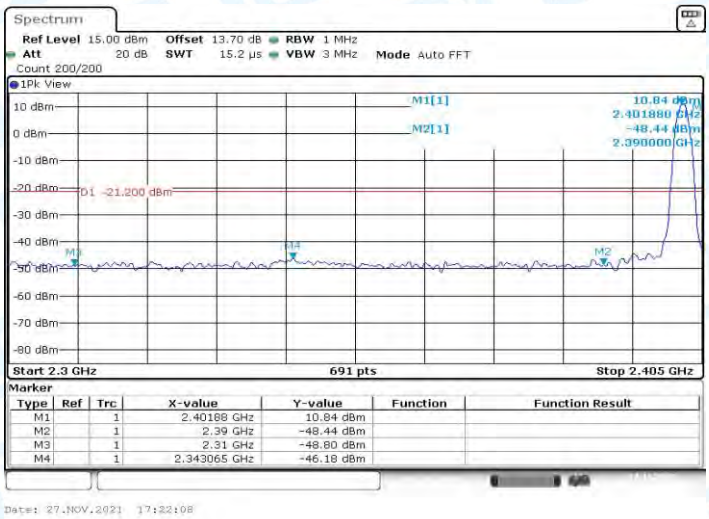
DH5_Ant1_Low_Hop_2402_Peak



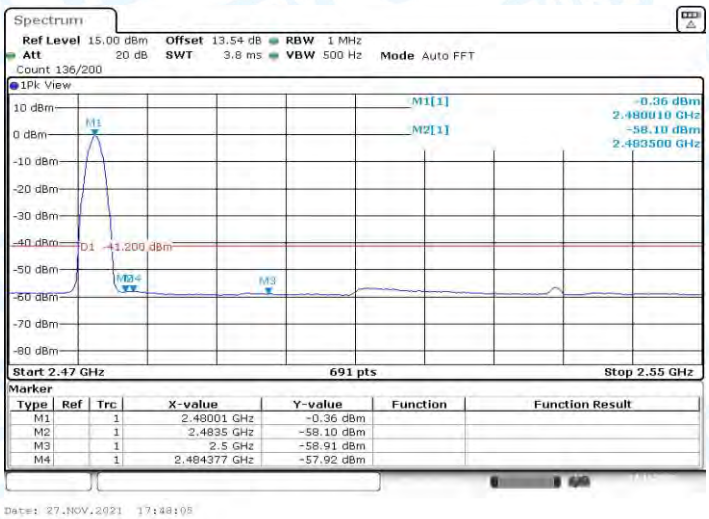
DH5_Ant1_High_Hop_2480_Peak



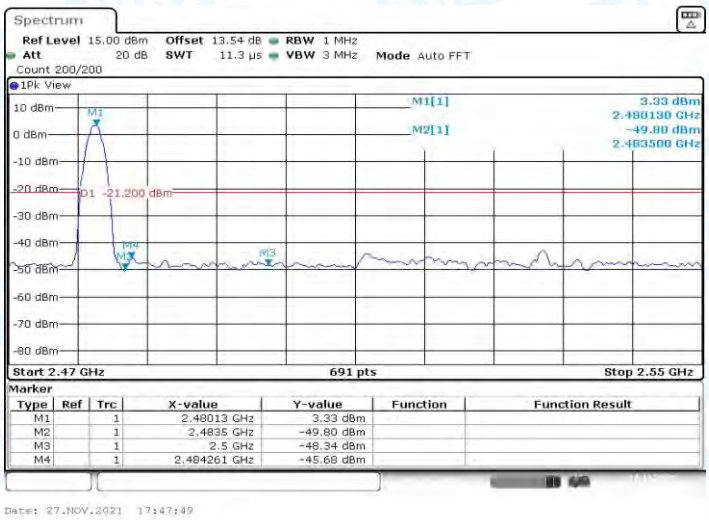
2DH5_Ant1_Low_2402_AV



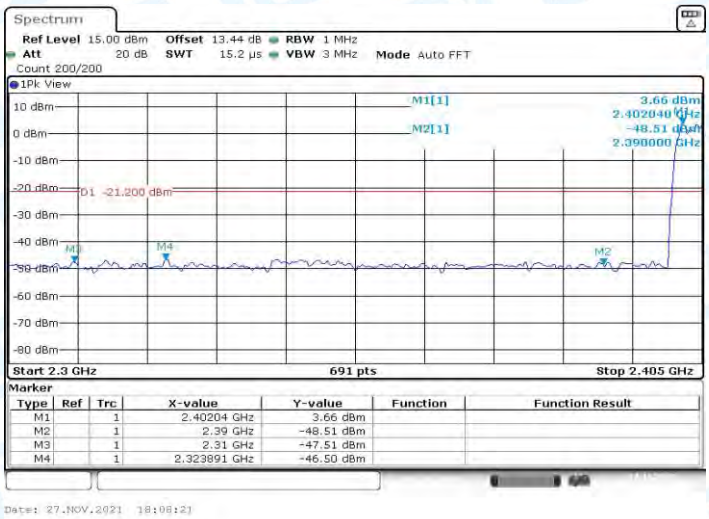
2DH5_Ant1_Low_2402_Peak



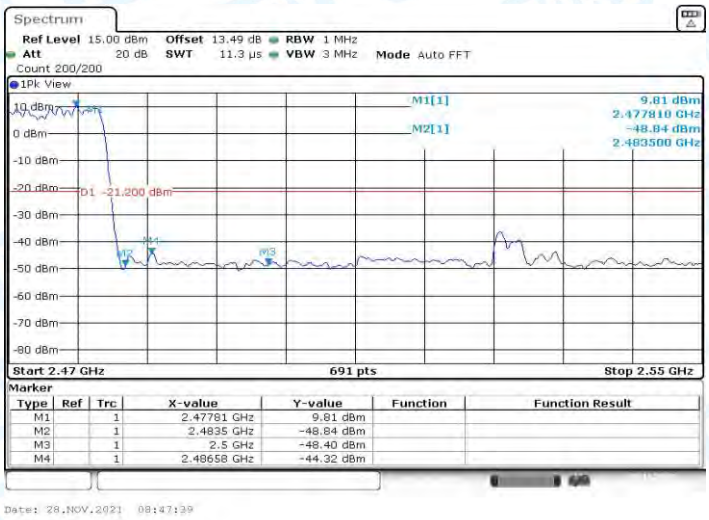
2DH5_Ant1_High_2480_AV



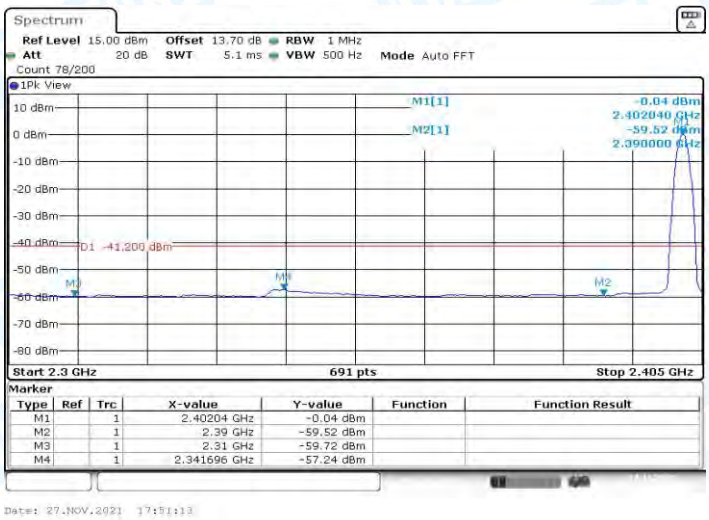
2DH5_Ant1_High_2480_Peak



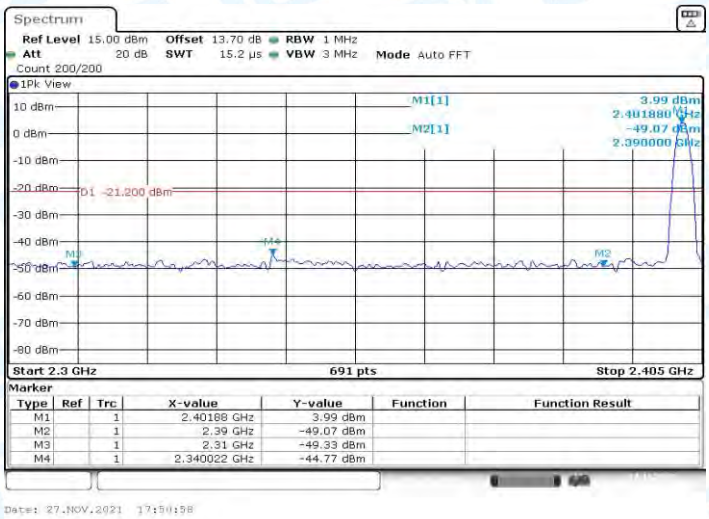
2DH5_Ant1_Low_Hop_2402_Peak



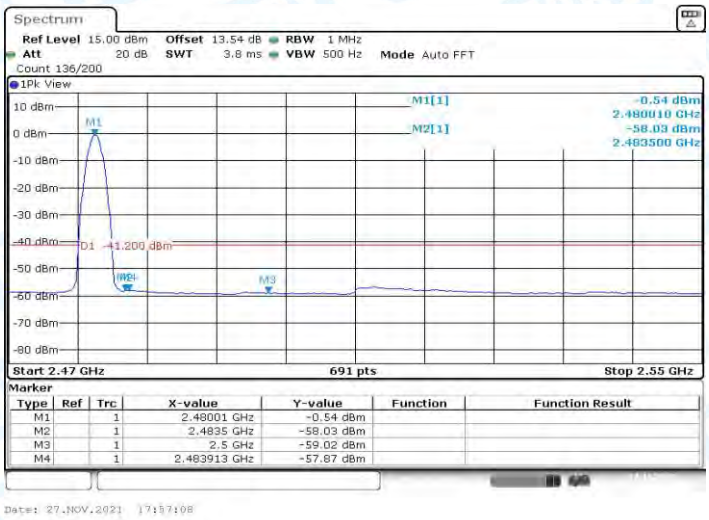
2DH5_Ant1_High_Hop_2480_Peak



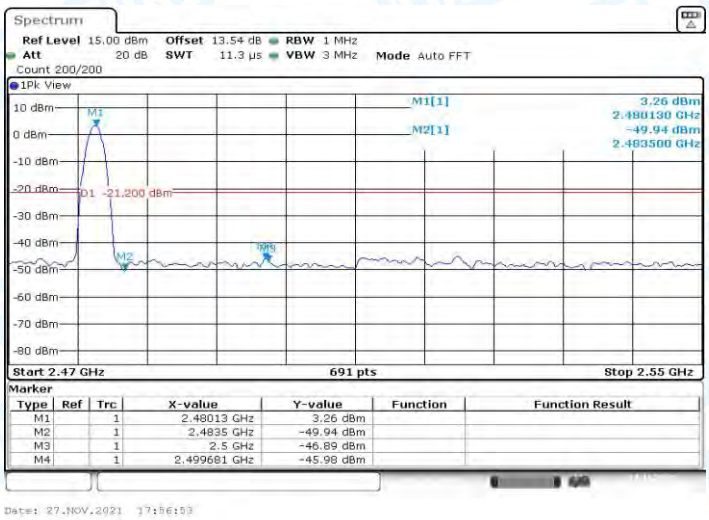
3DH5_Ant1_Low_2402_AV



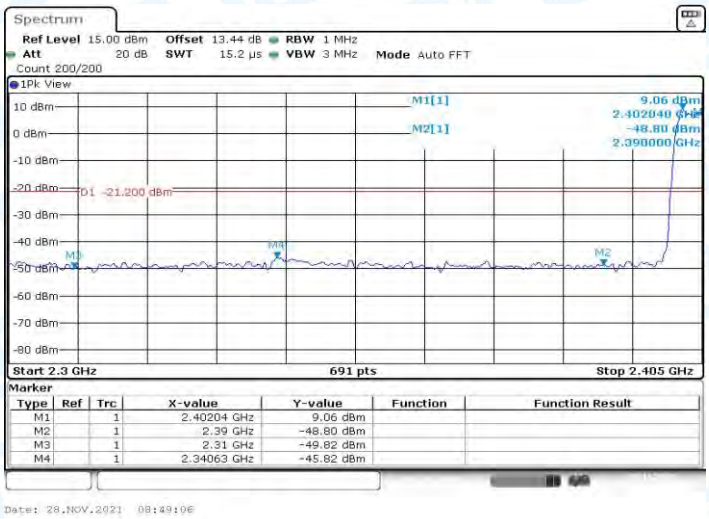
3DH5_Ant1_Low_2402_Peak



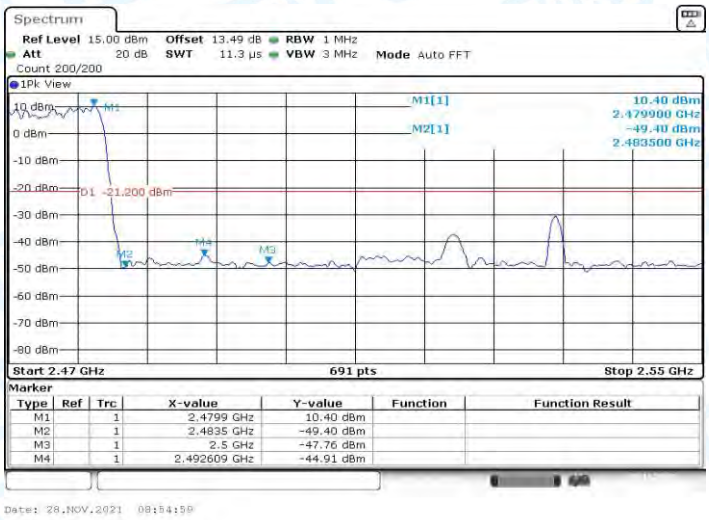
3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak

-----End of the report-----